



Borough of Swindon
EDUCATION COMMITTEE.

Annual Report

FOR THE YEAR 1927

OF THE

School Medical Officer,

DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.

BOROUGH OF SWINDON EDUCATION COMMITTEE.

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Head Clerk—S. MANSFIELD DEE.

Assistant Clerks—Miss GLADYS L. NORRIS.
JOHN W. DAY.

School Nurses—

Miss A. M. HOARE.

2 years Certificate of Hospital Training.

Certificate of Central Midwives Board.

Certificate of the Royal Sanitary Institute.

Miss I. D. SAMPSON.

3 years Certificate of Hospital Training.

Certificate for Tuberculosis (Royal Chest Hospital, London).

Queen's Nurse.

Certificate of Central Midwives Board.

Miss E. M. PILCHER.

3 years Certificate of Hospital Training.

School Nurses and Health Visitors and Tuberculosis Certificate.

Certificate of the Royal Sanitary Institute.

Miss L. M. GRIFFIN.

3 years Certificate of Hospital Training.

Certificate of Central Midwives Board

BOROUGH OF SWINDON EDUCATION COMMITTEE.

Area	....	....	....	....	....	4,265 Acres
Number of Elementary Schools	....	....	....	....	....	14
Number of School Departments	....	....	....	....	....	31
Recognised Accommodation	....	....	....	....	....	10,536
Number of Children on Register	....	....	....	....	....	9,136
Average Attendance	....	....	....	....	....	7,972
<hr style="width: 20%; margin: 10px auto;"/>						
Number of Secondary Schools	....	....	....	....	....	3
Number of Scholars on Roll :—						
The College Secondary School	....	....	....	....	....	288
Euclid Street	„	„	....	....	....	239
The Commonweal	„	„	....	....	....	276

*To the Chairman and Members of the Education Committee
of the Borough of Swindon.*

LADIES AND GENTLEMEN,

I have pleasure in presenting the report upon the Medical Inspection and Treatment of School Children in the Borough for the year 1927.

The staff of the department was unchanged and conditions were quite normal throughout the year, so that the report for 1927 is a record of work carried out without any adventitious difficulty. 1927 was a remarkably healthy year in Swindon, in fact there has never been in the history of the town a year in any way approaching to it. With the exception of an epidemic of mumps towards the end of the year which meddled with school attendance but was otherwise of no consequence, and an outbreak of influenza in February which though formidable was brief, there was practically no infectious disease interfering with school children. The number of school children who fell out either by death or by serious disease was less than in any previous year, and the general level of health was much higher. Opportunity was afforded during the year of pursuing and bringing right up to date the survey of children who were, or were alleged to be, mentally defective and of curing an accumulation of throat and ear cases which had been collecting for some years. Good progress was also made in the dental department.

It is still necessary to give the report of the School Medical Department separate from the general report of the Medical Officer, though each year, as the practice of preventive medicine grows, it becomes more anomalous and more difficult to separate the school child from the rest of the population. The growth of the child welfare movement, the last brick in which structure, the extension of all benefits to all children, which was sanctioned last year, makes the report of the School Service more difficult than ever by rendering it impossible to appreciate justly the meaning of its findings without careful preliminary study of the report upon child welfare. In 1907 when school medical inspection became a statutory duty, the public health service, as we understand it to-day did not exist. The Act of 1907 was its commencement and in the early days of school work the report of the School Medical Officer stood quite alone, an entity in itself. The inspection of 'Entrants' was a beginning, practically nothing whatever was known of the condition of the children when their names were placed on the school register; nothing had been done previously

to save them from the adverse influence of their environments, nor to remedy any disadvantage with which they had been born, or which they had acquired. To-day the position is totally different. The 'entrant' to a school can now be expected to be free from any condition which is either preventable or curable and the examination of the entrant should be a mere stocktaking, resulting in a practically clean bill; those entrants who are abnormal are already under observation or treatment. The work of the School Medical Officer is not to start, but to continue. Some evidence of the growth of preventive medicine is afforded by the table giving the number of individual children found at routine medical inspection to require treatment. The proportion of such children is now dropping and the position is much more favourable than the statistics make apparent, because the latter do not discriminate between conditions already under treatment and those which for any reason have been neglected or undiscovered. The majority of defects and diseases which formerly were discovered on the examination of the entrants are mainly diseases of the weaner and the toddler. The care now given to children at these age periods, is producing a sensational drop in the diseased conditions which arise during that period and such as cannot be prevented, can and should be, discovered and remedied before the child enters school. The tendency is to shift back to the pre-school period the majority of the work that formerly was undertaken during the early school years. The condition known as tonsils and adenoids should be cleared out of the way before the child enters school, and the teeth of the entrant should be either naturally perfect or have been rendered dentally fit before admission. Chronic ear disease should never be seen. The deficiency diseases and ill-nutrition formerly abundant are met with now but seldom, and uncleanness, with the numerous pathological states to which it gives rise, is becoming more a question for the police than for the medical officer. The main object of the preliminary examination of school children should be to determine, not the state of their health, but the kind and degree of education for which they are fitted.

The true work of the School Medical Department is to inculcate health as a positive function, not as a mere negation of disease; to teach and to foster such habits as keep health active; to discover and, so far as possible, to remedy, mental and physical abnormalities and deficiencies which interfere with education, and where no remedy is possible to advise such alteration of education as is requisite; to hold a watching brief over the health of children of school age, to detect and remedy any abnormal condition which may develop *de novo* during that period; to pay particular attention to the states of infection, to see that these receive appropriate treatment not only to cure the acute condition,

but to prevent the development of subsequent defects and disorders which so frequently arise from them, and lastly, to estimate the physiological value of children to help to decide the ever troublesome problem of placing them in industry.

We are very far from carrying out these functions in a manner both scientific and businesslike. The position is still much dominated by disease, and the fallacy of considering disease as an entity separate, or capable of being separated from, normal physiological life. Many of our difficulties result from the delusions that in times of apparent health the organism can be left to its own devices and that in apparent ill-health it must be interfered with, both of which doctrines are repugnant to our knowledge of biological action.

The inculcation of habits of health, the establishment of systematic and automatic healthy living should be one of the chief objects of education and the school should be, of all places that in which this is easiest both to learn and to practice.

The physiology of the school age is the province at least as much of the teacher as of the physician, its basis is education not medicine. The difficulties of achieving what is so obviously desirable are many and great, but they are not insurmountable and will in fact be surmounted in quick time when the financial aspect or preventive medicine is fully appreciated. The return for money spent in preventing disease though not instantly apparent, becomes possible of estimation in course of time, and now that school medicine has been in operation for twenty years, those whose business it is to deal with the complicated finance involved, have not been slow to appreciate the business side of what is more generally considered in its humanitarian aspect.

The chief *vis-a-tergo* of preventive treatment at the present time is health insurance. The issue by the Board of Education of the Handbook of Suggestions on Health Teaching is an event of some importance, for the handbook is sound in the principles of modern preventive medicine and, it is hoped, will displace much which is used and taught in schools at present, which belongs to a bygone stage of public health development. The issue of the monthly public journal called 'Better Health' by the Committee of Public Education of the Society of Medical Officers of Health attempts to get at the parents and the household as the Handbook aims at the teacher and the child, so there is a more hopeful outlook for the future education of the whole community. In the prevention of disease the medical profession is concerned with research, the explanation of the facts revealed by research, and teaching and dissemination of the principles deduced from

research. The actual practice of health is the concern of each individual citizen, and the extent to which he will carry it out depends upon his teaching and his training. Though it is extremely difficult to get to the truth, the truth when found is generally simple and entails neither great trouble nor severe self-denial to conform to it. It is quite as easy and considerably more pleasant to live healthily than unhealthily. It is also vastly cheaper, for so called civilized man spends more on vices and evil habits than upon everything else put together.

FINDINGS OF MEDICAL INSPECTION.

Since the Schedule for Medical Inspection remains the same, the findings recorded must remain much the same also, differing from year to year only in numbers and percentages, which being but crude statistical figures are not very easy to interpret. Except for defective vision, dental caries, and colour blindness, there is no standard scale for measuring defects, so that the individuality of the inspector greatly influences the records. Nobody who is familiar with modern biometrical methods can accept the findings of school inspections as other than a rough indication of the extent and nature of the defects of school children. For this purpose they are of considerable utility. But for purposes of comparison and critical inquiry they are too crude to be of much service. Where the same inspector, using the same routine, furnishes records year after year, some comparison between his own yearly findings is possible, but, even here it must be remembered that where unfixed standards are used, the same inspector will vary considerably from time to time in the standards he forms for himself, both consciously and unconsciously. No evidence that the children of one town are less well nourished than those of another is furnished by the bare record that the former returns 50% of malnutrition and the latter 5% unless the precise grounds upon which are formed the opinion of the state of nutrition are known and these have been measured.

Modern preventive medicine is founded upon biometry, which is a science as exact as mechanics, and it can go badly astray if it attempts to work upon premises which are vague and mere expressions of opinion.

Some of the defects found in school children maintain an almost constant level. One of these, defective sight, is not in most cases a disease at all, but a physiological state, disadvantageous to the individual in the state of civilization in which he is placed, but not necessarily detrimental in all conditions. Hypermetropia, the commonest cause of defective sight, is 'normal' to all mammals except man, to all savage races of man, to civilized man in infancy,

and to one third throughout adult life. There is no reason to believe that the distribution of hypermetropia has ever been different from what it is nor that in the future it will vary from what it is at present. So long as man educates himself through his eyes, thirty per cent of us will require spectacles in early life, and practically all after passing middle age. Spectacles in most instances are really working tools ; some can do near work without them, others cannot. Just as some can crack nuts with their fingers, others (precious few) can use their teeth for the purpose, whilst others again require nutcrackers. Some of the conditions for which spectacles are required are however definite diseases of the eye.

Ringworm is another condition which now remains fairly stationary. Formerly exceptionally prevalent in Swindon, some years ago a determined effort was made to stamp it out. This succeeded up to a certain point, where it has since remained. Ringworm is not a disease *of* the body, but *on* the body. It apparently causes no biological reaction so there is no tendency to spontaneous cure, the fungus which causes it has to be destroyed by artificial means. It almost invariably disappears at puberty, because an alteration in the hair and its appendages occurs at that period, which inhibits the growth of the fungus. But it seldom disappears spontaneously in early childhood. Ringworm rarely, if ever, spreads in school. For its propagation, intimate contact of head to head is required. Children sleeping in the same bed almost invariably infect each other, so it is common to find several members of one family affected together. The condition has no influence whatever on the health of the child, nor has any state of health any influence on ringworm. Occasionally actual disease of the scalp occurs on the site of a ringworm. When this happens it cures the ringworm. The difficulty of curing ringworm rests solely upon the difficulty of getting at the fungus. Epilation is practically essential to enable remedies to get to business. Formerly Xrays were used for epilation, but the thallium method, described by Dr. Fleming in the appendix to this report, is quicker, infinitely less troublesome and, we believe, safer.

The amount of ear disease varies enormously from year to year, its prevalence or otherwise being determined by measles and scarlet fever, which cause ninety per cent. of ear troubles. Last year we were troubled by neither infection, so ear diseases were few. There had, however, been an accumulation of arrears of ear work awaiting clearing. As will appear later we have now a complete system of tackling these troublesome and most dangerous conditions.

MENTALLY DEFECTIVE CHILDREN.

Table III shows what is apparently an enormous rise in the number of mentally defective children in 1927, compared with previous years. This is merely due to the fact that last year was the first in which we were able to carry our systematically the examination of all alleged defectives. 88 such children were examined of which 3 were imbeciles ; 23 definitely feeble minded 44 definitely not feeble minded and 18 questionable, awaiting further investigation. We are beginning to show some signs of waking up to the appreciation of the mental states of children, though we have got little further than from talking nonsense and doing nothing to talking sense, and still doing nothing. The expression 'dull and backward,' which is so frequently used, is characteristic of our inefficiency in tackling a problem which is the most important in the whole of sociology. To include the backward with the dull is about as sensible as to include babies with the dumb because they cannot speak.

THYROID DISORDERS.

The investigations into the disorders of the thyroid gland, which have been prosecuted since 1920, continued during 1927. The drop in the proportion of children suffering from thyroid enlargements is very obvious from the figures from routine inspections. Last year only 34 cases were discovered in the routine inspection of 3198 Elementary children, and 7 cases amongst 776 Secondary pupils ; and of these the majority was already known. Only 11 new cases were added to the list of those under observation, of which 2 were negligible, 4 were simple enlargements and 5 were hyperthyroid cases. It is significant that the youngest child of the series was born in 1917 and six out of the eleven were past puberty.

In 1924 the percentage of elementary children with goitre was 6, in 1925 it was 4, in 1926 it was 2, and in 1927 it was 1. Amongst Secondary pupils the percentages were 8, 15, 1.5, 0.9 respectively each year. These figures are significant and mean that Swindon, which was formerly a goitrous district, is so no longer. We shall not discuss this year whether the collapse of goitre locally is due either in part or in whole to the efforts that have been made to suppress it, but we may draw attention to the paragraph in the dissertation upon thyroids which appeared in the report for 1925, which shows that what is occurring in Swindon is precisely what we predicted would occur, if the assumption upon which the scheme of prevention is based, were a sound hypothesis. Our thanks are due to the Rowett Research Institute of Aberdeen for an estimation of the Iodine Content in Swindon water supply,

and to Dr. Isabella Leitch for her interest and practical help in elucidating the problem of goitre in Swindon. Much interest centres round the monthly cycle of changes which occur in the size and function of the gland, and in the iodine content of the blood in the various phases of the cycle. The proof of the clinical side of this phenomenon is now practically complete, and the bio-chemical evidence required to establish the blood changes is being prosecuted. The number of cases of goitre which have been under observation at Swindon is about 500, and in many a series of records extending to six and seven years is available.

EAR AND THROAT DISEASES.

The most important development which occurred in the school medical service in 1927 was the completion of the scheme for abolishing the continuance of chronic nose and throat diseases originating in childhood. Until the advent of school inspection, children's throats and ears were practically neglected altogether, but inspection had not been in force many years before the first step, arrangements for the removal of tonsils and adenoids, was introduced and eventually made compulsory throughout the country. The second step, the establishment of a clinic where cases other than those requiring immediate operation, could be kept under observation and receive minor forms of treatment, was taken in Swindon in 1921. This was extended in 1925 by the addition of a clinic for the ionisation of cases of chronic ear disease which resisted other forms of treatment. In 1926 arrangements were made for the performance of radical operations for ear disease which resisted ionisation. Having got to this stage, the position was cleared to such an extent that it was possible to formulate a scheme whereby all that it is possible to do can be done to prevent the development of chronic ear, nose and throat diseases and to remedy with the least possible delay, such as cannot be prevented. It was found that cases which resisted ionisation did not necessarily need radical operation, so the Committee decided to appoint an ear specialist to hold a clinic, at such times as should be necessary, to review those cases which had failed to be cured by the means at the disposal of the school medical service.

Mr. Kenneth Lees was appointed to hold these clinics for the examination of special cases and to advise appropriate treatment for each case. The treatment which he advises is subsequently carried out, generally by himself.

This completes the scheme for the attention to school children and should guarantee that no child is discharged to industry suffering from chronic disease of the nose, throat or ear, which

either interferes with his employment or which might lead to fatal conditions in after life. The extension of all the benefits of the school medical service to the maternity and child welfare department, which was also achieved in 1927, renders it possible to deal with a large proportion of these cases before they enter school when, the patients being younger and the diseases of more recent date, treatment is easier and more satisfactory. Since one of the chief causes of the continuance of the supply of cases of ear disease is infectious disease, mainly scarlet fever and measles, the proposition was put before the Hospital Board, and carried by that Board, that cases recovering from acute fevers should be treated in hospital for such chronic throat diseases (mainly tonsils and adenoids) which originate from the infectious diseases for which the patients had been under treatment.

This will prevent the supply of cases from scarlet fever, and, since it is now merely a matter of time before measles is normally treated in hospital, it will eventually cover the more common and more difficult cases which arise from measles. The extension of dental benefits to infants and toddlers, also an innovation of 1927, and which in the near future it is hoped to extend widely, is another avenue of attack in the prevention of chronic throat diseases. During 1927 the arrears of work in this department, which had been accumulating for some time, were cleared off, and since, in the absence of infectious disease during the year, the supply of new cases was scanty, the position now is very satisfactory. There is next to nothing waiting to be done and complete machinery in being to deal with anything that will arise in future.

RHEUMATISM.

Special inquiries are made into all children suffering from rheumatic affections and accurate and extensive records (together with those of normal controls) are kept of every rheumatic child that is met with in the course of school work and child welfare. There can be no doubt that the rheumatic affections of childhood are less frequent in Swindon than in many parts of the country, but it has been observed that the amount of child rheumatism varies from year to year in epidemic waves. 1926 was a year in which rheumatism was comparatively common. In 1927 it was almost absent. It will be some years before the evidence gathered in Swindon will be of sufficient magnitude to be worthy of scrutiny. This work will form part of the scheme of inquiry which is being prosecuted from the centre at Bristol.

DENTAL DEPARTMENT.

Without accepting all that the dentists claim for the influence of dental decay in the production of disease, nobody who has even a rudimentary knowledge of preventive medicine will question that the dentistry of children stands absolutely first of all measures for the suppression of disease. It is not too much to say that the school dentist performs work for the community more important than that of anybody else, and that the return for the trouble and expense of attending to the teeth of children pays the highest dividend of any form of human industry. It will not be, however, before the significance of the financial value of school dentistry to the community is fully realised by everybody that we shall get a service which is really adequate and water-tight. But this appreciation is gradually gaining ground, particularly amongst those who have to deal with the financial side of insurance and sickness. The matter really needs no involved argument, for the difference which is made to the subsequent life of the individual by attention to the teeth in childhood, is so obvious and so great that it quickly influences the balance sheets of those who have to pay for disease. It is not likely that we shall continue long to spend millions on supporting and trying to alleviate useless cripples, when we find that we can prevent most of their deficiencies by an expenditure of a few pounds. Nor is it likely that the members of the community will be content to suffer continuously, to live in continued fear of disease with all the suffering, annoyances, and expense which this entails, when, having got rid of the old superstitions regarding the causes and nature of disease, they learn how disease comes into being and how it may be prevented. The prevention of dental disease itself belongs essentially to the ante-natal and infant department and comes but little within the province of the school dentist; for the main causes of dental disease cease to operate before the teeth erupt, and though something may be done to keep the teeth when they have appeared, we cannot expect to do much in the way of preventing the occurrence of caries after the age of five. On the other hand, much may be done to arrest and limit caries when it begins. The work of the school dentist is therefore, as regards the teeth, mainly curative and not preventive; but it is preventive of abdominal disease, insanity, the anaemias, and doubtless the majority of other chronic diseases, of the adult. The treatment by the school dentist is, as we have said, mainly curative, but this means arresting disease and not removing teeth. Since we are still only in the beginning of a proper scheme of dentistry, teeth have to be removed; but the time will come, and that shortly, when the removal of a tooth will be looked upon as a procedure which is only justifiable in exceptional circumstances, and eventually considered as malpraxis. The attention to the

teeth as a preventive measure extends, of course, beyond school dentistry and forms one of the endeavours of ante-natal and infant welfare. This part of the story is now receiving attention, and will be much extended in the near future, resulting in bringing the work to be done by the school dentist within reasonable bounds.

ENDURANCE AND EFFICIENCY ESTIMATION.

Until recent years medical examinations were based purely on anatomical considerations, but with the rise of physiology they are gradually becoming less anatomical and more physiological, less dealing with structure and more with function. On the anatomical basis of examination, all that can be detected are the products of disease, and the severity and importance of departures from health are gauged, not by their interference with function, which is their sole importance, but by the changes in physical condition which can be seen, felt or heard.

In the Results of the Findings of School Medical Inspection, conditions which are trivial or negligible are given equal value with those that are grave. Thus Table IIB.—“Children found to require Treatment,” includes at one end of the Scale such things as warts and hypermetropia, and at the other, mental deficiency and incurable heart disease. In physiological estimation departures from the normal are given their true value and this is by no means always what appears upon the surface. Endurance testing, which may be defined as the physiological estimation of the reserve powers, is gradually being made use of in school medical work and in Swindon forms part of the regular examination of the children in the secondary schools. Efficiency testing seeks to estimate the extent and variation of normal physiological functions. It is not at present utilised to any great extent, except in connection with flying and one or two special industries; but when man has got tired of wasting half his life in finding out what he cannot do, he may feel inclined to spend a few minutes of his existence in finding out what he can do. The only form of efficiency testing which is used to any extent in school inspection is the estimation of colour vision and this is limited to the secondary school children. There is every reason why this should be extended to the boys in the elementary schools particularly in Swindon which, being a railway town, possesses many departments of industry for which normal colour vision is essential. It is estimated that the addition of two seconds per child to the time occupied for school inspection is sufficient for the throw-out test for colour vision. The actual estimation of colour perception in those who fail in the throw-out test is a somewhat lengthy business; but since the only form of colour blindness which is of importance is the heredity form which is permanent and limited to males*, this estimation need only be carried out once in the

*[From 3 to 5% of males have curtailed colour perception; in the whole of medical literature there are less than 100 authentic cases of colour blindness in females].

life time of about 5% of boys who fail in the throw-out test. Humanity is not yet ready for such complex efficiency testing as future generations will consider essential, for we have not risen to the appreciation that human material, like everything else, is of divers kinds and degrees of utility. The engineer, who would not dream of using mild steel to make a crank-shaft, but who can find equally valuable uses for the softer metal, will not hesitate to do with his son what he considers is ridiculous to do with a piece of iron and is slow to realize the fact that, as the qualities of the metal can be estimated before it is utilized, the same thing may apply to the human body and mind.

INFECTIOUS DISEASE.

The control of infectious diseases of school children in schools as a function of the school medical department leads to its divorce from general epidemiology. The results of this are extremely unfortunate, for the spread and distribution of disease is an indivisible problem; extra-ordinary difficult to understand under all circumstances, but utterly impossible to appreciate if taken in fragments. There is nothing special to distinguish the school child from any other member of the community as regards the process of infection. The human parasites are not interested in the school register.

PROVISION OF MEALS.

The Education (Provision of Meals) Acts of 1906 and 1914, were in force in the Borough throughout the year. The scheme for carrying out this work remains similar to what was in vogue last year. It is extremely simple, easy to administer and very cheap, but efficient for dealing with local needs.

SCHOOL BATHS.

There are no school baths in Swindon, nor indeed are there any public baths. The Great Western Railway Medical Fund Society possess private baths and swimming baths which, for all practical purposes, are open to the public. The swimming instruction of the scholars is carried out in these baths.

EMPLOYMENT OF CHILDREN AND YOUNG PERSONS.

There is no employment of young children in Swindon. The Juvenile Employment Committee looks after children and young persons and this Committee is in constant touch with the School Medical Department. Since practically all the children in Swindon are known to the Medical Department, which possess life records of them during their childhood, co-operation is comparatively simple.

SPECIAL INQUIRIES.

The special inquiries that are at present being carried out by the School Medical Department in Swindon are :—

- (1) An inquiry into the distribution and causes of thyroid disease.
- (2) An inquiry into the histories and environment of rheumatic children.
- (3) An inquiry into the blood changes of childhood.
- (4) An inquiry into the pulse rate and blood pressure during the school age.
- (5) An inquiry into the histories and environmental factors of children whose life history is known throughout and who develop tonsils and adenoids requiring operation.

CLEANLINESS.

When school inspection first started, the condition of the children's heads as regards the presence of vermin astounded and disgusted everybody and the first fruit of the provisions of the 1907 Act was to produce a rapid improvement. In the first decade of the century it was rare, even in the better class secondary schools, to find a girl with her hair free from nits and it was nothing out of the common to find a considerable proportion of children dropping vermin from their heads upon their desks and upon their neighbours. The change from this state to that which rules now is dramatic, but of recent years the position has remained stationary and the time has come to review the position and to decide what is required to put a final stop to the continuance of verminous heads. There is no more excuse for a child to have a lousy head than for him to be a thief. Yet in looking at Table V., it will be seen that amongst 9,000 school children in Swindon, 2,000 heads are not perfectly clean. It must be understood that of these 2,000, at least 1,900, and probably more, suffer from a condition for which neither they nor their parents are responsible. Most are children with occasional nits in their hair which have resulted from the transference of living vermin from other children who have been in contact with them. The tendency to wear the hair short, dictated by fashion and not by sense, certainly makes it much easier to keep girls' heads clean ; but even in the most perfectly regulated family, school girls are continually menaced, and from time to time are attacked, by vermin from the heads of other children who are neglected. The presence of one dirty child in a girls' or infants' school adds greatly to the household labours of everybody who has children attending that school, and the gross cost to the community engendered by work, the expense of soap, combs, and the expenditure of energy, bad temper, and occasionally of expletives, is something very considerable. The

number of really dirty children which we have in the borough, or indeed which are met with in any town, is quite small, but collectively they do an enormous amount of damage to others. We have many totally inefficient ways of dealing with them. The only method of stamping out the trouble, namely forcible cleansing, is not within our powers. If those parents who vent their ire on the School Medical Officer and his Nurses would exercise their voices *and their votes* to force their politicians to give them laws for their protection, they would quickly see the extermination of the head louse. As things stand at present there is but little chance of gaining a more satisfactory position than we occupy at present. Parents can be prosecuted for sending their children to school in an unclean condition and if the case is made out, the magistrates are bound to convict and may impose a penalty. They have no power of insisting upon the only thing which is necessary or is the slightest good, namely that the children should be cleansed.

CONCLUSION.

So far as the physical side of school medicine is concerned, things are well ; our practice is coming abreast of our knowledge and there is little that can be done which is not in fact done. For the diseased or the defective child we do all that we can do. But the other side, the educational side is by no means so satisfactory. The healthy receive but scant consideration. The break-down gang and the ambulance team are of excellent efficiency ; the safety-first brigade does little but tread on its own toes. No doubt the management of the unhealthy is much easier than that of the sound : "when the devil was sick," etc., but we should surely bear in mind that the healthy are more valuable than the sick, and that the nurture of health is both cheaper and more delectable than the attempts to cause it to return after it has temporarily or permanently gone astray.

The maintenance of health is not sensational work, for its needs and its effects are not immediately apparent. The unique function of adaption possessed by organic beings renders the detection of adverse strain upon their mechanism difficult to detect until the breaking point is passed, so that apparent health continues until the power of adaption is exhausted and the body begins to disorganize. So complex is the causation of disease, so long-drawn-out the struggle successfully maintained by the organism between its injury and the evidence of its damage, that the connection between them is always difficult to establish and to a large extent has, up to the present, defeated our endeavours to trace. But the researches of the past twenty years have thrown much light upon the factors which destroy vitality, they have shifted our basis of consideration of the problems of human biology and given us a juster appreciation of the parts played by various functions in augmenting and depressing health. Though the

body and the mind possess enormous facility for adaption to environmental changes, the effort made has to be paid for, and that payment must be made from the capital of potential vitality. We can keep in health by spending freely, but for a short time only ; if we wish for long continuance of health, we must go slowly and wisely. The consumption of a lump of sugar, above what is required or is desirable for the body economy, may not produce any immediate effect, but the energy required to burn it to carbon dioxide and water and to eliminate the products must be paid for to the utmost erg ; by as many units as are wasted, so will the capacity to maintain health be curtailed.

The Hygiene of the mind, the science of the conservation of nervous energy, of the fitting of the mind to do what it can do, of the suppression of what injures, destroys, or perverts the mind, is scarcely utilized by man at all. For this inertia we pay most dearly. Last year the cost of health insurance increase 11% on the preceding year, yet never in the history of man was there less physical sickness. Few of us can keep our tempers even under the ordinary stresses of life and many break down altogether when faced with problems which call forth the full emotional or logical faculties. We have indeed grown even more used to being mentally unfit than to being physically diseased so that many of us go from the cradle to the grave without ever knowing what health really means. Our attempts to force man to fit his environment, instead of adopting the environment to fit man, the cause of most of our troubles, is the natural corollary to our desires to sacrifice our capital for immediate profits. The report of the American Actuaries that the commercial value of the people is five times greater than that of all other assets real and personal, astounded those who cannot be made to realize that the material of the earth has little value to man until he has adopted it for his purpose and that the great asset of man is himself.

School medicine, in so far as is it separable from other departments of human cultivation, is part of education ; an integral and essential part, not a side subject to be accepted as a convenience and taught as a useful scrap to fill in an odd moment of the time-table. All education is, or should be, the practical cult of mental hygiene and the intimate connection between the physical and chemical states of the body and the integrity and vigour of mentality should cause the schoolmaster to look upon school medicine rather as a part of his domain, for which he needs special expert advice, than as an addition to his all too numerous outside duties. Much remains to be done, but there is the general desire to do it, and to do it thoroughly, so that we may hope in time to see a better co-ordination of all departments of citizen rearing.

DUNSTAN BREWER,

February, 1928.

School Medical Officer.

APPENDIX I.

REPORT OF SCHOOL DENTAL SURGEON.

To the Chairman and Members of the Education Committee.

LADIES AND GENTLEMEN,

I have pleasure in presenting the Annual Report on Dental Inspection and Treatment for the Year 1927.

14 Elementary Schools comprising 31 departments have been dentally inspected. Treatment has been carried out in 11 Schools to the end of the year.

1332 Parents attended at the inspections which is very gratifying.

75% of the children referred for treatment attended the Clinic. This still shows a steady increase over previous years.

ELEMENTARY SCHOOLS.

4468 Appointments were made, 4086 or 91% were kept.

3470 teeth were extracted and 1035 teeth were filled.

Other operations including dressing, polishing and scaling numbered 5996.

The dental nurse was present at practically all the sessions, and her services are greatly appreciated. It would materially help the work of the Clinic if the nurse could be relieved of the clerical work now occupying so much of her time, which could be of greater service to the dental surgeons.

The practice of seeing all children up to 9 years of age, and following up those who receive treatment is being continued.

It is of interest to compare the present statistics of the Clinic with 5 years ago.

In 1922, 1312 children attended making 2491 attendances.

In 1927, 2391 children attended making 4068 attendances.

So that 1079 more children attended making 1577 more attendances.

In 1922, 947 children were inspected for the first time, and 2616 were re-inspected.

In 1927, 1196 children were inspected for the first time.
and 4497 were re-inspected.

In 1922 2628 were referred.

In 1927 4125 were referred.

It will be noted that in 1927, 249 more were inspected for the first time, and 1881 more were re-inspected, so that approximately 400 more elementary school children each year are coming forward and making use of the Clinic.

This year also progress has been made in the Infant Welfare work, 144 attendances of children under school age were recorded, and 15 cases from the Maternity Centre have been treated, and given advice.

ROUTINE INSPECTIONS.

5693 Children were inspected in the Schools.

1523 or 26.7% Children were found free from Caries.

45 or .79% Children were found to require no treatment

4125 or 72.4% Children were recommended for treatment to end of year.

2391 or 75% Children who were recommended for treatment attended the Clinic.

The total number including specials who attended was 2513 and they made 4086 attendances. 1803 of those were rendered dentally fit as result of treatment.

SECONDARY SCHOOLS.

The work in the Secondary Schools has not progressed meantime as I had hoped.

During the year 164 pupils were treated at the Clinics. They made 323 attendances. Inspection was carried out in the three Secondary Schools, viz.—(The College, The Commonweal, and Euclid Street). 725 pupils were examined and 457 or 63% referred for treatment.

The result of this inspection is given in the Statistical Tables for Higher Education.

It is to be hoped that the difficulties which have arisen in regard to this work will be overcome, and it will get into full swing.

It cannot be too greatly emphasised how important it is to have all these pupils seen and attended during their years at school (11 to 19 years). If they are not regularly seen and treated during this period the future results may be disastrous, and often the good work done while they are at the elementary schools is undone.

I again express my thanks on behalf of the Dental Staff to the teachers and members of the Medical Department, for the assistance they give us in helping to accomplish what we are all aiming at, a 100% dental fitness for Swindon School Children.

W. KENYON BERRIE, L.D.S., R.F.P.S.G.

School Dental Surgeon.

January, 1928.

APPENDIX II.

REPORT OF THE OPHTHALMIC SURGEON.

LADIES AND GENTLEMEN,

I have the honour to submit my Report for the year 1927.

There has been an increase in the number of children examined and the waiting list still further reduced. This has been made possible by the help I have received from Dr. G. W. Fleming, in carrying out the refraction work.

I have from time to time examined quite small children, referred from the Infant Welfare Centre, and have so been able to start treatment in cases which otherwise might have remained untreated until school age was reached. This has proved to be of value in such serious conditions as congenital cataract and severe strabismus.

The Nursing and Clerical Staffs have done much to maintain the smooth working of the service and I wish to thank them for their co-operation.

O. B. PRATT, M.A., M.B., M.R.C.S., L.R.C.P.
Ophthalmic Surgeon.

March, 1928.

APPENDIX III.

OTORRHOEA**TREATMENT BY ELECTRICAL IONISATION IN 1927.**

Owing to the great decrease in the number of cases of discharging ears in the past year less than half the number given Electrical Ionisation in the previous year received this treatment in 1927, but the percentage cured by the method remains the same namely 50%. This figure must be regarded as quite satisfactory when allowance is made for the fact that the cases are not selected. The treatment does no harm when it fails to cure, but rather assists the diagnosis by showing that the disease is deep-seated and beyond the reach of the ionizing fluid. I consider that every case of otorrhoea of more than two or three weeks duration should be offered Electrical Ionisation because it effects a cure where ear drops can cure and in doing so in one sitting saves all the time and labour which treatment by means of drops involves, besides showing up at once those cases in which the infection is deep-seated and consequently in need of more radical treatment.

G. W. FLEMING,
Assistant School Medical Officer.

APPENDIX IV.

**THE TREATMENT OF RINGWORM OF THE SCALP BY
THALLIUM ACETATE.**

There appears to be some likelihood of this treatment superseding epilation of the scalp by X-rays particularly in the case of school children and those of more tender years for the following reasons :—

1. The satisfactory treatment by X-rays calls for an up-to-date and expensive plant.
2. An X-ray specialist to give the treatment which necessitates a high degree of skill and experience.
3. The time required to treat each case and the difficulty of administering it to children up to 7 years of age who are generally nervous and hard to manage.
4. Some degree of permanent baldness is always a possibility against which even the expert is not prepared to give any guarantee.

In epilation by Thallium Acetate all these disadvantages disappear, as the drug is inexpensive, easily administered, requires no special technique and is readily taken by the youngest child. Moreover permanent baldness has never been known to follow its use. Thallium Acetate has, however certain drawbacks. It is alleged that it is sometimes followed by toxic effects, *e.g.*, albuminuria, bone and joint pains and occasionally swollen joints as well, particularly in the lower limbs. There is in addition frequently loss of appetite, drowsiness, and irritability associated with hypochlorhydria or achlorhydria. These symptoms come on about the second week after treatment and pass off by degrees, usually disappearing altogether in 3 to 4 weeks. Out of over 1,000 cases treated by this method there has not been any permanent injury to health so far as it is possible to judge. It should be noted that toxic symptoms are more frequent and severe in the older and heavier children. But the weight seems to be the chief factor, so that those who have had most experience recommend 7 mg. per kilogramme of body weight instead of 8 for all children weighing 23 kilogrammes or more.

MODE OF ADMINISTRATION.

1. The urine should be examined for albumen and casts since the presence of these is a definite contraindication to the treatment.
2. The child is then weighed nude, and the dose reckoned at 8 mg., of thallium acetate to each kilogramme of body weight. The quantity required is then dissolved in about a wineglassful

of sweetened water and given to the child, followed by another wineglassful of plain water. It is best given on an empty stomach. This ends the treatment by mouth. N.B.—As the weighing of the patient should be absolutely accurate it is well to have the weighing machine tested for accuracy at frequent intervals. The difficulty of weighing the drug can be overcome by buying tablets of 100 mg., and 10mg., and 1 mg. These are made by Messrs. Kahlbaum of Berlin and are put up in 50 tablet bottles obtainable from Messrs. Schering Ltd., 3, Lloyds Avenue, E.C.3. If the weighing machine only records the weight in pounds multiply by 0.4536 to convert the pounds into kilogrammes. It is useful to have a table of equivalent weights for pounds and kilogrammes to check one's own calculation.

TREATMENT DURING THE PRE-DEPILATION PERIOD.

During this period Ung. Sulph. B.P., is rubbed all over the scalp morning and evening. The scalp being thoroughly washed with hot water and soap before the evening inunction. A cotton cap or lining should be worn and changed daily for a clean one. It is sufficient to boil the dirty one for 15 minutes to sterilise it.

THE EPILATING PERIOD.

As soon as epilation begins, usually from the 14th to 21st day, it should be assisted by plucking first by hand and then when the diseased patches are laid bare the short hairs should be removed with forceps or by the application of Zinc plaster or Unna's Zinc gelatin which is applied to the scalp on the 8th day and covered with a capeline bandage. It is then peeled off on the 21st day yielding a perfect 'billiard ball.' I have not tried this last method, but it appears easy and efficient from the description. Whatever method is adopted the sine qua non of the treatment is to ensure the removal of all the diseased hairs, the further treatment consists of the application of 10% Sulphur Ointment (Ung. Sulph. B.P.) and 5-10% Tincture of Iodine ($\frac{2}{3}$ Tinct. I plus $\frac{1}{3}$ Liq. I) on alternate days. The scalp should be thoroughly washed to remove the ointment and dried before the Tinct. Iod. is applied (It may become necessary to abate the Iodine should the head become inflamed). This is the treatment I have adopted and the one advocated by Buschke and others and the one which appears to give most success. It should be continued till the new hairs begins to show and till no diseased hairs are present after repeated examination with the help of a lens and chloroform which shows up the diseased hairs if present.

TOXIC SIGNS.

These usually come on about the second week. The child's parent should be told about them and to put the child to bed should they appear and notify the doctor who is treating the case.

ALLEVIATION OF SYMPTOMS.

The general symptoms may be counteracted by small doses of Thyroid extract and Hydrochloric Acid (diluted) and the joint pains with methyl salicylate liniment applied locally on lint. Some give salicylates internally as well.

DISCHARGE.

Before discharging the child as cured the urine should be examined again.

In conclusion I would like to acknowledge my indebtedness to Drs. Dowling, Seaston and Wilson from whose article in the British Medical Journal, I have culled most of my information on this subject (I have only treated 4 cases myself in all of which the cure was complete and no toxic symptoms developed excepting an occasional fleeting pain in the legs of two of the cases).

G. W. FLEMING,
Assistant School Medical Officer.

APPENDIX V.

A Report of the State of the Ventilation in the Schools as determined by The Kata-Thermometer.

The ordinary thermometer indicates the average effect of the temperature of the air and walls of an enclosure on itself; it does not show the cooling and evaporating power of the environment on the skin and respiratory membrane. To measure these cooling and evaporative powers, the Kata-thermometer was introduced and it is because of these properties that the Kata-thermometer has been employed in the investigations herein described.

It is obvious that the more comfortable the conditions for the scholar, the more contented he will be and the better the work he will do. Of course it is well known that many people carry out their tasks in very unsuitable atmospheres and appear not to worry about their comfort. However, the important point is, not what people will put up with or become accustomed to through depression of their vitality, but what are the best atmospheric conditions for their health. In consideration of this, it is well to remember that the body is fashioned by Nature for the getting of food by active muscular work, and that upon the taking of muscular activity depends the proper vigorous functions of the digestive and respiratory organs. Consequent on this too, is the vigour of the nervous system and keen enjoyment of life. The hothouse conditions of life suitable for the failing powers of the aged, the injured in a state of shock, and those in the last stages of wasting disease, are mistakenly supposed to be suitable for the young and healthy. The traditional fear of cold is handed down from the mother to the children and for fear of their catching cold they are too often confined indoors and over-clothed. They are thus debilitated and exposed at the same time to massive infection in crowded places. Besides suitable food they require the stimulation of abundant open-air exercise to make them eat and metabolize their food and purify their blood. Household expenses will go up as more food is eaten by individuals excited by exposure to open air and muscular activity, to keen appetite, but an immense material economy will result from a healthy and vigorous childhood. Cold is an enemy of the semi-starved, but it is a stimulating friend of the well fed. In properly ventilated buildings, the risk of infection is greatly decreased. Massive infection of saliva spray from carriers of disease germs, and the physical state of the atmosphere—lack of sunlight and of adequate cooling and evaporative powers—depressing the vitality, are the agents which cause ill health and which are dispelled by open-air conditions.

Having regard to the importance of ventilation as outlined above, I was instructed by my chief, Dr. Brewer, to investigate the state of ventilation in the schools by means of the Kata-thermometer which is the most up-to-date and accurate instrument for measuring the efficiency of ventilation. All the elementary schools were visited in the course of the year and the atmosphere in one or more classrooms in each department examined to determine the efficiency or otherwise of the ventilation. The whole question of ventilation depends on the amount of movement of air, and on its temperature and humidity. The Kata-thermometer measures these factors. By this instrument it has been possible, from experiments, to lay down definite standards, and Professor Leonard Hill (the inventor of the Kata-thermometer) asserts that the absolute minima should be 6 for the 'Dry Kata' reading and 18 for the 'Wet Kata.' In schools, it is preferable that these figures should be 7 and 20 respectively, as children need an atmosphere of greater cooling power than is necessary for adults. From the tables appended it will be seen that only 4 out of the 14 schools examined came up to the desired standard of ventilation, and that in two of the four successful schools only one classroom of those examined came up to the standard required.

The marked discrepancy between the Dry and Wet Kata readings should also be noted. Of the 45 Dry Kata readings taken, 34 are up to or above the standard, viz., 6: as laid down by Prof. Leonard Hill, whereas out of 45 Wet Kata readings, only 8 are up to or above the standard, viz., 18. To enable us to understand the meaning of this we must know the factors on which the cooling of the Dry and Wet Kata-Thermometers depend.

The Dry Kata is cooled by radiation and convection, the Wet Kata is cooled by radiation, convection and evaporation. In other words the Dry Kata is influenced mainly by the temperature and movement of the air, the dryness or moistness of the air having no appreciable effect upon the readings. But the cooling of the Wet Kata depends not only on the temperature and movement of the air but also on its moistness or humidity, as the greater the humidity of the air, the lower will be its evaporative or cooling power on the Wet Kata-thermometer.

Therefore we learn from the above figures that the air examined was satisfactory as regards temperature and movement in 34 out of 45 readings, but that the moistness or humidity was excessive in all but 8 readings; which means that too many children were using the available air. The remedy consists in reducing the number of children or increasing the supply of air, and the latter will be found the less costly procedure. Fortunately in about half the cases of bad ventilation the only action necessary is

an appeal to the teachers to make more vigorous use of the available means of ventilation. In this connection it should be remembered that if children are to be supplied freely with fresh air they must be allowed to generate heat by muscular activity to counteract its cooling power, otherwise the cold air instead of invigorating them will depress their vitality and lower their resistance to disease. Some teachers are prone to seize every excuse for curtailing or cancelling playtime, to the detriment of their pupils. As it is unnatural, unnecessary and unhealthy to keep children sitting at their desks for long periods, I would urge the question of increasing the frequency or duration of playtime as it is quite certain that 15 minutes, at least 5 minutes of which is taken getting in and out again, is utterly inadequate ; particularly as the children are expected to attend to the calls of nature during this period. The provision of a covered play or drill shed for the use of each department in inclement weather is another matter which calls for attention, since under the present regulations if it is raining at playtime the children are kept in and thus lose this valuable restorative of their waning mental energy and lowered body heat. The cancellation of playtime from this cause alone must be frequent and formidable. It should not be beyond the wit of man to devise a time-table in which the play period would be interchangeable with the lesson periods according to the state of the weather until the provision of play sheds for all departments make it unnecessary.

G. W. FLEMING,
Assistant School Medical Officer.

TABLE OF KATA-THERMOMETRY.

School.	Date	Time (Approx.) P.M.	Room	No. of Children.	Accommo- dation.	Temperature Fahr.	Dry Kata	Wet Kata	Weather.	Remarks.
Holyrood Mixed & Infants'	9/5/27	3.30	D	28	40	68	5.4	15	Bright & warm	3 windows & door open.
"	9/5/27	3.45	B	46	40	69	4.8	15	"	8 windows & door open.
"	16/5/27	2.30	E	52	70	62	8	18	Dull & showery	3 windows open
"	16/5/27	3.0	A	28	40	63	6.5	13.3	"	"
"	16/5/27	3.30	C	30	40	62	7	16	"	"
Ferndale Rd. Infants'	20/6/27	2.45	A	39	50	63	7	18	Breezy & cloudy	7 windows open
"	20/6/27	3.20	B	41	50	65	7	18	"	" Class just come in.
"	20/6/27	3.40	C	37	48	63	6.4	17	"	8 windows open
"	27/6/27	2.45	D	38	50	60	7.3	16.8	Raining	7 windows open
"	27/6/27	3.15	E	34	48	61	7.4	18	"	3 windows open
"	27/6/27	3.40	F	40	50	59	7.2	16.9	"	3 windows open
Clifton Street Infants'	22/8/27	3.0	A	66	66	66	7.1	15.6	Showery	Children out at play.
Girls'	22/8/27	3.30	Main A	135	140	64	7.6	16.1	"	Many windows open
Boys'	22/8/27	3.45	D	34	40	64	6.3	15.1	"	Draughty. All windows open
Gilberts' Hill Girls'	10/10/27	2.30	B	89	120	64	6	14	Bright & warm	12 wins. open, 6 closed.
Infants'	10/10/27	3.0	B	52	60	66	5.6	13	"	8 wins. open, 3 closed.
Ch. of England Infants'	24/10/27	2.30	3	41	46	68	6	16.1	Bright & warm	2 wins. open, 4 closed.
Girls'	24/10/27	3.0	C	28	32	64	5.5	15	"	2 wins. open, 4 closed.
Boys'	24/10/27	3.30	Large room	49	54	64	6.4	15.1	"	Boys out at play.
College Street Girls'	7/11/27	2.30	F	15	60	60	5.9	15.1	Dull outside T45	2 wins. open, 2 closed.
Infants'	7/11/27	3.0	B	31	72	54	7.5	16.1	"	No windows open. 4 windows open.
Gorse Hill Infants'	14/11/27	3.0	A	38	38	55	7.3	17.4	Dull, T 45F.	4 windows open.
Girls'	14/11/27	3.30	E	40	46	68	5.6	14.6	"	3 windows open, but no cross current

Even Swindon Mixed Infants'	12/9/27	4.0	D11	45	53	66	6.6	13	"	2 windows partly open 2 windows partly open
	12/9/27	2.40	F	34	48	65	5.3	15.6	Bright	...
	12/9/27	3.10		?	40	58	6.9	16.9	Bright	...
Westcott Infants'	12/9/27	3.40	D	30	45	60	6.2	16.1	Bright	All windows (12) Open Children out. All wins. open.
Westcott Mixed	19/9/27	3.45	D	42	60	66	5.9	14.6		All windows open
Jennings St., Mixed	19/9/27	2.45	F	31	56	62	6.2	16.1		Only 4 windows partly open out of 20.
Jennings St., Infants'	19/9/27	3.15	B	48	60	62	6.2	13.7		4 wins. open & 4 closed. 2 wins. open & 6 "
Ferndale Road Girls'	26/9/27	2.30	E	40	50	58	6.9	18	Bright, Cool	8 windows, 4 open
Ferndale Road Boys'	26/9/27	3.0	F	50	60	58	7.3	17.4	"	8 windows, 2 open.
Queenstown Girls'	3/10/27	3.0	B	48	52	65	5.4	14.6	Bright and	All but one window open
Queenstown Infants'	3/10/27	2.30	Main Hall	91	48	73	4.3	14.1	warm in sun	8 windows partly open, 5 closed. No cross current. Overheated.
Clarence Street Infants'	3/10/27	3.30	A	44	50	65	6	15		All wins. partly open
Boys'	17/10/27	2.30	Hall	110	60	66	7	17.4	Dull but mild	All wins. open, both ends.
Boys'	17/10/27	2.50	E	36	60	...	5.3	15	"	Some wins. open, but no cross vent. Foggy.
Girls'	17/10/27	3.10	E	47	60	62	7	16.1	"	All windows open.
Girls'	17/10/27	3.30	Hall	87	95	60	8.2	22.6	"	All wins. open both ends. Draughty.
Lethbridge Rd. Mixed	28/11/27	2.45	C	38	60	62	10	22.5	Dull, fresh	All windows open.
Infants'	28/11/27	3.15	B	98	120	64	8.2	20.2	"	Most of the windows open Children just come in from play.

APPENDIX VI.

ADENOIDS IN CHILDREN WHOSE HISTORY FROM BIRTH IS RECORDED.

The following facts and figures represent a preliminary investigation of the social and physical conditions of a small number of children, who have been suffering from enlarged tonsils and adenoids. The history of all these children is known from birth.

It will be seen that the evidence so far collected is of a negative order. Thus, only one third of the children were either wholly or partially artificially fed as infants, and in just under one half the feeding of toddlers was good.

The housing conditions present the same features. In nearly half the cases they were good.

The symptoms complained of and the signs found at examination range over a fairly wide area, but only ten children appear to have been definitely weakly from birth onwards.

It is still more difficult to deduce anything definite from the blood examinations. The normal for each child in a perfect condition of health is not known, and many factors have to be taken into consideration when the blood is found to be abnormal in any way.

It is clear, however, that at present, there is no evidence which points to one factor more than another as the causal agent.

Total No. of cases examined	....	....	68
No. of Boys	....	....	36
No. of Girls	....	....	32
Earliest recorded year of birth	....	....	1916
Latest recorded year of birth	....	....	1925

FEEDING DURING INFANCY—

No. entirely breast fed	....	....	29
No. partially breast fed	....	....	18

FEEDING DURING TODDLER AGE—

Good	....	....	....	30
Moderate	....	....	....	5
Fair	....	....	....	6
Faulty	....	....	....	11
Bad	....	....	....	10
Not known	....	....	....	6

HOUSING CONDITIONS—

Good	....	....	....	28
Fair	....	....	....	22
Poor	....	....	....	5
Bad	....	....	....	1

PHYSICAL SIGNS AND SYMPTOMS

Frequent colds	....	....	....	18
Enlarged tonsils	....	....	....	4
Adenoids	....	....	....	11
Skin troubles	....	....	....	6
Anaphylaxis	....	....	....	6
Sore throats	....	....	....	2
Tonsillitis	....	....	....	6
Stomach troubles	....	....	....	4
Catarrh	....	....	....	5
Enlarged cervical glands	....	....	....	4
Ear trouble, including deafness	....	....	....	6
Snuffles	....	....	....	1
Weakly from birth	....	....	....	10

SYMPTOMS ATTRIBUTED DIRECTLY TO :—

Measles	....	....	....	8
Bronchitis	....	....	....	4
Scarlet fever	....	....	....	2
Whooping cough	....	....	....	3
Pneumonia	....	....	....	2

BLOOD EXAMINATIONS.

Total Number	....	....	....	68
Cases taken in duplicate	....	....	....	3

RED CELL EXAMINATIONS :—

Normal	....	....	....	52
Variation in size	....	....	....	8
Variation in depth of staining	....	....	....	1
Pallor of cells	....	....	....	2
Stippling	....	....	....	1
Macrocytes present	....	....	....	1

WHITE CELL EXAMINATIONS :—

Normal	....	....	....	18
Leucopenia	....	....	....	10
Leucocytosis	....	....	....	25
Lymphocytosis	....	....	....	15
Polymorph leucocytosis	....	....	....	2
Eosinophilia	....	....	....	5

BLOOD PRESSURES.

Number recorded	....	....	....	55
Highest recorded	....	....	....	138
Lowest recorded	....	....	....	80
Average	....	....	....	102.4

V. REDMAN KING,
Assistant School Medical Officer.

APPENDIX VII.

THE DISTRIBUTION OF THE STIGMATA IN SCHOOL CHILDREN.

Medical Inspection affords an inexhaustible field for the study of the side of human biology which necessitates the review of comparatively enormous numbers without any selection. Our knowledge of man as a species is still very rudimentary and in order that we may bias him in competition with the rest of the organic creation, it is essential for us to discover precisely what position he occupies, how that position has been achieved, and in what direction it is moving. Our knowledge of the subject being so small it is inexcusable for us to neglect any opportunity of increasing it and any small fragments of true knowledge relating to man are always of value. The School Medical Officer in carrying out his routine inspection must, if he has any intelligence at all, be quickly aware of curious differences, idiosyncrasies, and types amongst human children, and if he puts any energy into his work he can scarcely fail to develop particular interests in certain directions and to find the necessary labour and energy to investigate them. Amongst the minor matters, which are met with in various degrees of frequency are the stigmata, sometimes erroneously called the stigmata of degeneration (for though some of them are reversions and some possibly the signs of failure, many of them have a totally different meaning). These are generally looked upon as curiosities of no particular importance, but anthropology is gradually finding a use for these phenomena and very often information on such matters is required in the course of other investigations and the information sought is seldom at hand. Last year we published a brief dissertation on the Connection of Asymmetry of the Face with Asymmetry of Refraction and this year we propose to deal with two more of the stigmata namely, "Accessory Vortices or Hair Whorls" and "Bifurcation of the Uvula."

HAIR VORTICES.

A schedule of Medical Examination of Children for Mental Defect appears in the earlier Reports of the Medical Officer to the Board of Education.

Amongst the signs and symptoms to be noted are a collection of heterogeneous phenomena grouped together under the term "stigmata." Amongst these stigmata occurs "Hair—double and triple vortices." The object of this paper is to offer evidence as to the frequency of multiple hair vortices and to inquire into what connection, if any, there is between these curiosities and mentality.

The evidence given below was collected from the examination of 5,000 consecutive boys, between the ages of three and fourteen. The scrutiny was limited to boys, for the fashion of wearing the hair long which ruled at the time this investigation was in progress, rendered the examination of girls somewhat more lengthy. The study of hair vortices is more complicated than was anticipated, for not only may there be one, two, three or more crowns, but vortices may occur in other parts of the head and, moreover, the direction in which the hair radiates from the vortex also varies. The results may be most conveniently embodied in the following table :—

TABLE I.

Table Showing the Arrangement of the Hair Vortices in 5000 boys.

1. VORTICES LIMITED TO VERTEX—			
a.	One Vortex only	....	3826
b.	Two Vortices	....
	(a) Both whorling in same direction	121	
	(b) Whorling in opposite directions	160	
		—	281
c.	Triple Vortices		
	(a) All whorling in same direction	9	
	(d) Not all whorling in same direction	8	
		—	17
d.	More than three Vortices	....	14
			—
	Total number with Vertical Vortices only	....	4138
2. VORTICES, VERTICAL AND FRONTAL (' Cow-licks ')			
a.	One vertical and one frontal	....	641
b.	One vertical and two frontal	....	131
c.	Two vertical and one frontal	....	59
d.	Two vertical and two frontal	....	31
		—	
	Total number with vertical and frontal vortices		862

Multiple vertical vortices are fairly generally distributed, but the frontal vortices, (commonly called ' Cow-licks ' or ' Calf-licks ') vary considerably in frequency in different localities; in some villages they are exceedingly frequent, in others quite rare.

In about 77% of the boys the vortex is single and is placed somewhere near the vertex of the skull. It may be central, or to the right, or left. Very seldom indeed is it exactly at the vertex.

The direction in which the hair radiates from the centre may be either in the direction in which the hands of a watch move or less frequently in the reverse direction. The hairs do not usually radiate from the vortex in a perfect spiral, but in the form of a note of interrogation? §

The examination of 1,000 boys in which these points were specially looked for, reveals the following :—

	Hair whorling in direction of hands of watch.	Whorling in contrary direction	Total.
Vortex centrally situated	298	73	371
Vortex to right of centre	460	70	530
Vortex to left of centre	77	22	99

The comparative rarity of the vortex being situated to the left and especially of a left situation with the hair whorling in the direction contrary to the hands of a watch is to be noted.

The Connection between the Multiple Vortices and the Mental Condition.

The children in the district where these observations were made left school almost immediately on attaining the age of 13 and were medically examined as 'leavers' between the ages of $12\frac{1}{2}$ to $13\frac{1}{2}$. The standard reached by these children varies, and though the statement must be made with many reservations, it may be said that when dealing with large numbers, the standard reached on leaving school is a fair estimate of mental capacity. The standard reached by all scholars was as follows :—

Standard III and below	1%
Standard IV and V.	71%
Standard VI and VII.	28%

Amongst scholars with two or more vertical vortices the numbers were :—

Standard III and below	8%
Standard IV and V.	60%
Standard VI and VII	32%

Amongst scholars with one vertical vortex, but who have one or more frontal vortices in addition, the figures are somewhat intermediate with those above, viz. :—

Standard III and below.	1.5%
Standard IV and V.	67.5%
Standard VI and VII.	31 %

It would therefore appear that children with multiple vortices tend to be rather below or rather above the average mental capacity. But the numbers dealt with are small and the differences between the groups are slight. The error is therefore great and the results would not have been worth recording except that, in investigating the various phenomena known as stigmata, the same result rules without exception; children showing these stigmata—facial asymmetry; high palate, bifid uvula, anomalous dentitions, accessory auricles, etc., tend to be either brighter or duller than “standard” children.

As a control to the above observations, which were prosecuted in the West Riding of Yorkshire, 850 consecutive Swindon boys were examined, with the following results :—

SWINDON—MULTIPLE VORTICES 850 BOYS.

VERTICAL VORTICES ONLY—

2 Vortices—Both whorling in same direction	28
Whorling in opposite directions	29
3 Vortices—All whorling in the same direction	4
Whorling in opposite directions	3

VERTICAL AND FRONTAL VORTICES—

2 Vertical and 2 Frontal	....	....	....	2
3 Vertical and 2 Frontal	....	....	....	2

It will be noted that the percentage of children with multiple vertical vortices is practically identical in the two districts (6—7%) but that there is an enormous difference in the frequency of frontal vortices.

Amongst the 1,174 boys showing more than one vortex there was no case of mental defection. Amongst 57 mentally defectives under observation only 2 or 3.5% showed more than a single vortex.

A NOTE ON “TWINS.”

Whether a given pair of twins are “true,” that is due to fission of a single ovum, or are merely two children conceived at the same time from separate ova and therefore, strictly, not twins at all, is a matter of great interest and importance. For if a pair of babies spring from a single ovum, their endowments and potentialities must be identical; whereas if they are developed from separate ova, they resemble each other no more than two

brothers of the same age. If therefore we can prove that a given pair were developed from a single ovum, we should have positive proof that any difference manifested by them at any period of life must be caused solely by environment. It need scarcely be said that such a point is of vast importance to us in the study of disease and many social and psychological problems.

It is essential to prove development from a single ovum. That such a contingency is possible is obvious from double monsters. It appears that out of ten pairs of twins, eight are not true twins, one pair is doubtful, the remainder certainly due to fission.

Physiological twins present the following features:—

1. They are invariably of the same sex.
 2. The eyes and hair are exactly the same shade.
 3. The teeth erupt in the same order and at the same time, and, if they decay, they do so in the same order in both twins (alteration due to 'environment' occasionally intervenes).
 4. Any anomalies of the teeth are similar in both twins, but reversed in side. Thus should one twin fail to erupt the upper right lateral incisor, the other will fail to erupt the upper left lateral incisor.
 5. The hair vortices are always reversed. One has the vortex on the right, the other has it on the left. The hair of one whorls clock-hand-wise, it is reversed in the other. (There were no twins in the 5,000 boys examined for hair vortices).
 6. The refraction of the eyes is similar in both twins except that the right eye of one corresponds to the left eye of the other.
 7. One is right handed, the other is left handed. (Education tends to mask left-handedness).
 8. The right thumb print of one will be found to be similar to the left thumb print of the other.
 9. If the face is asymmetrical, which it nearly always is, the asymmetry of the one will be the reverse of the asymmetry of the other.
 10. In build, development, features, mental powers, etc., the twins are very similar, especially when young; but environment, (e.g., one breast fed and one bottle fed) may make great difference in these points. *Environment does not in the very least alter the first nine points.* (except decay of the teeth).
 11. In boy twins the left testicle is lower than the right in one, higher in the other.
 12. Transposition of the viscera is not very frequent. Total transposition in one of a pair of true twins is rare. Transposition of the abdominal organs is more common, but it is exceptional.
- It might be argued that all the points enumerated might result from environment in utero, but this can be dismissed for none of them holds in twins of opposite sex who obviously are not developed from a single ovum and yet are subjected to the same uterine environment as true twins.

BIFID UVULA.

Bifidation of the uvula is met with as an occasional stigma in school children. Amongst 10,000 children in the West Riding of Yorkshire this stigma was observed in 56 (32 males and 24 females).

The following table shows the distribution of these cases as regards age and standard attained. The 10,000 children were selected groups, the selection being according to age; entrants, intermediates and leavers.

Age	Totals	Standard.							
		Inf'ts.	1	2	3	4	5	6	7
3	M 1	1	....	....	....	....	....	....	....
	F 1	1	....	....	....	....	....	....	....
4	M 3	3	....	....	....	....	....	....	....
	F 1	1	....	....	....	....	....	....	....
5	M 8	8	....	....	....	....	....	....	....
	F 8	8	....	....	....	....	....	....	....
6	M 4	4	....	....	....	....	....	....	....
	F 1	1	....	....	....	....	....	....	....
7	....	....	....	....	....	....	....	....	....

8	M 2	1	....	....	....	....	....	....	....
	F 0	....	1	....	....	....	....	....	....
9	M 0	....	....	....	....	....	....	....	....
	F 1	....	....	....	1	....	....	....	....
10	M 3	....	....	1	1	1	....	....	....
	F 2	....	....	....	2	....	....	....	....
11	M 1	....	....	....	....	....	....	....	....
	F 0	....	....	....	....	1	....	....	....
12	M 10	....	....	....	....	....	1	8	1
	F 10	....	....	....	1	....	4	4	1

In Swindon amongst 1,500 children examined, bifidated uvula was found in 9, or 0.6%

DUNSTAN BREWER,
School Medical Officer.

ELEMENTARY EDUCATION.

Statistical Tables

TABLE I.—RETURN OF MEDICAL INSPECTIONS.

A. ROUTINE MEDICAL INSPECTIONS.

Number of Code Group Inspections.

Entrants	..	..	1149
Intermediates	..	..	727
Leavers	..	..	1322
			<hr/>
TOTAL	..	..	3198
			<hr/>
Number of other Routine Inspections	..		Nil

B. OTHER INSPECTIONS.

Number of Special Inspections	..		2208
Number of Re-inspections	..		4781
			<hr/>
TOTAL	..	..	6989
			<hr/>

**TABLE II.—A.—Return of Defects found by Medical Inspection
in the Year ended 31st December, 1927.**

DEFECT OR DISEASE.				ROUTINE INSPECTIONS		SPECIAL INSPECTIONS.	
				No. of Defects.		No. of Defects.	
				Requiring treatment.	Requiring to be kept under obser- vation but not requiring treatment.	Requiring treatment.	Requiring to be kept under obser- vation but not requiring treatment
(1)				(2)	(3)	(4)	(5)
Skin	Malnutrition ....	....	....	19	13	....	....
	Ringworm :—						
	Scalp ....	....	....	16	....	86	....
	Body ....	....	....	3	....	29	....
	Scabies ....	....	....	....	....	7	....
	Impetigo ....	....	....	9	....	101	....
Eye	Other Diseases (non-Tuberculous)			82	....	391	2
	Blepharitis ....	....	....	23	....	30	....
	Conjunctivitis ....	....	....	3	....	24	....
	Keratitis ....	....	....	....	....	....	....
	Corneal Opacities ....	....	....	2	....	3	....
	Defective Vision ....	....	....	234	....	21	....
Ear	Squint ....	....	....	33	1	6	....
	Other Conditions ....	....	....	18	2	81	1
	Defective Hearing ....	....	....	59	7	50	12
	Otitis Media ....	....	....	2	....	37	16
	Other Ear Diseases ....	....	....	149	3	221	20
	Enlarged Tonsils only ....	....	....	26	67	96	28
Nose and Throat	Adenoids only ....	....	....	5	8	17	6
	Enlarged Tonsils and Adenoids			9	18	64	3
	Other Conditions ....	....	....	25	15	85	8
Glands	Enlarged Cervical and Sub-max : (non-Tuberculous)			7	....	118	20
Speech	Enlarged Thyroid ....	....	....	13	2	14	....
	Defective ....	....	....	2	2	4	3
Teeth	Dental Diseases ....	....	....	323	....	11	....
Heart & Circula- tion	Heart Disease :—						
	Organic ....	....	....	2	12	....	2
	Functional ....	....	....	2	33	1	6
	Anaemia ....	....	....	6	8	5	1
Lungs	Bronchitis ....	....	....	5	2	4	....
	Other Non-Tuberculous Diseases			46	23	29	14
	Pulmonary :—						
Tuber- culosis	Definite ....	....	....	....	....	1	....
	Suspected ....	....	....	2	....	3	6
	Non-Pulmonary :—						
	Glands ....	....	....	1	....	....	1
	Spine ....	....	....	....	....	....	....
	Hip ....	....	....	....	....	....	1
	Other Bones and Joints			1	....	1	....
	Other Forms ....	....	....	1	....	....	....

TABLE II. A—(Continued).

DEFECT OR DISEASE.					ROUTINE INSPECTIONS.		SPECIAL INSPECTIONS.	
					No. of Defects.		No. of Defects.	
					Requiring treatment	Requiring to be kept under observation but not requiring treatment.	Requiring treatment.	Requiring to be kept under observation but not requiring treatment.
(1)					(2)	(3)	(4)	(5)
Nervous System	{ Epilepsy	....	....	....	1	3	1	3
	{ Chorea	....	....	....	2	1	1	....
	{ Other Conditions	....	....	....	20	17	35	19
Deform-ities.	{ Rickets	....	....	....	....	1	....	....
	{ Spinal Curvature	....	....	....	4	5	2	1
	{ Other Forms	....	....	....	15	7	8	8
Other Defects or Diseases					84	31	458	40

**B. Number of INDIVIDUAL CHILDREN found at
ROUTINE Medical Inspection to Require Treatment
(Excluding Uncleanliness and Dental Diseases).**

Group. (1)	Number of Children		Percentage of Children found to require treatment. (4)
	Inspected (2)	Found to require treat- ment (3)	
CODE GROUPS :			
Entrants	1149	248	21.5
Intermediates	727	196	26.9
Leavers	1322	301	22.7
Total (Code Groups)	3198	745	23.3
Other Routine Inspections	—	—	—

TABLE III.—Return of all Exceptional Children in the Area.

			Boys	Girls	To
Blind (including partially blind).	(i) Suitable for training in a School or Class for the totally blind.	Attending Certified Schools or Classes for the Blind	2	2	
		Attending Public Elementary Schools ....	....	....
		At other Institutions	1	....
		At no School or Institution	3	1	
	(ii) Suitable for training in a School or Class for the partially blind.	Attending Certified Schools or Classes for the Blind ....	....	....
		Attending Public Elementary Schools.	3	1	
		At other Institutions ....	....	....
		At no School or Institution	1	....
Deaf (including deaf and dumb and partially deaf).	(i) Suitable for training in a School or Class for the totally deaf or deaf and dumb.	Attending Certified Schools or Classes for the Deaf.	3	2	
		Attending Public Elementary Schools. ....	....	....
		At other Institutions ....	....	....
		At no School or Institution ....	....	1	
	(ii) Suitable for training in a School or Class for the partially deaf.	Attending Certified Schools or Classes for the Deaf. ....	....	....
		Attending Public Elementary Schools.	5	1	
		At other Institutions ....	....	....
		At no School or Institution ....	....	1	
Mentally Defective.	Feebleminded (cases not notifiable to the Local Control Authority).	Attending Certified Schools for Mentally Defective Children.	3	6	
		Attending Public Elementary Schools.	26	23	
		At other Institutions ....	....	....
		At no School or Institution	2	3	
	Notified to the Local Control Authority during the year.	Feebleminded.	1	....
		Imbeciles	1	1	
		Idiots. ....	....	....
Epileptics.	Suffering from severe epilepsy	Attending Certified Special Schools for Epileptics ....	....	1	
		In Institutions other than Certified Special Schools ....	....	....
		Attending Public Elementary Schools. ....	....	....
		At no School or Institution	1	....
	Suffering from epilepsy which is not severe.	Attending Public Elementary Schools.	9	5	
		At no School or Institution ....	....	1	

TABLE III.—(Continued).

			Boys	Girls	Total
Physically Defective.	Infectious pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board.	2	....	2
		At other Institutions ....	....	....	....
		At no School or Institution ....	....	1	1
	Non-infectious but active pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board. ....	....	....	....
		At Certified Residential Open Air Schools. ....	....	....	....
		At Certified Day Open Air Schools. ....	....	....	....
		At Public Elementary Schools	12	1	13
		At other Institutions ....	....	....	....
		At no School or Institution	3	2	5
	Delicate children (e.g., pre-or latent tuberculosis, malnutrition, debility, anaemia, etc.)	At Certified Residential Open Air Schools. ....	....	....	....
		At Certified Day Open Air Schools. ....	....	....	....
		At Public Elementary Schools.	35	32	67
		At other Institutions. ....	....	....	....
		At no School or Institution ....	....	2	2
	Active non-pulmonary tuberculosis.	At Sanatoria or Hospital Schools approved by the Ministry of Health or the Board.	3	1	4
		At Public Elementary Schools	6	2	8
		At other Institutions ....	....	....	....
		At no School or Institution	3	1	4
	Cripple Children (other than those with active tuberculous disease), e.g., children suffering from paralysis &c., and including those with severe heart disease.	At Certified Hospital Schools	....	1	1
		At Certified Residential Cripple Schools. ....	....	....	....
		At Certified Day Cripple Schools. ....	....	....	....
		At Public Elementary Schools	15	21	36
		At other Institutions. ....	....	....	....
		At no School or Institution	5	11	16

**TABLE IV.—Return of Defects Treated during the Year ended
31st December, 1927.**

TREATMENT TABLE.

Group I.—Minor Ailments (excluding Uncleanliness, for which see Group V).

Disease or Defect.	No. of Defects treated under Authority's Scheme.			Num- ber of def'cts cured	No. of defects remain- ing under treatm't	No. of attend- ances at Clinic	No. of Con- sulta- tions.
	From pre- vious Year	New Cases	Total				
<i>Contagious Skin Diseases—</i>							
Impetigo	1	98	99	98	1	832	276
Scabies .....	....	7	7	7	....	25	19
Other Diseases .....	....	29	29	29	....	140	63
<i>Non-Contagious Skin Diseases</i>							
Dermatitis .....	....	5	5	5	....	10	9
Eczema .....	....	15	15	15	....	114	52
Seborrhoea .....	....	6	6	6	....	42	17
Alopecia .....	....	4	4	4	....	9	6
Abscesses .....	....	2	2	2	....	13	8
Boils .....	....	18	18	18	....	108	43
Warts	4	26	30	25	5	229	39
Herpes .....	....	3	3	3	....	22	15
Urticaria .....	....	5	5	5	....	13	13
Psoriasis .....	....	2	2	2	....	34	8
Other Diseases .....	....	32	32	30	2	75	56
<i>Ear, Nose and Throat Diseases</i>							
Glands .....	....	33	33	33	....	136	59
Rhinitis .....	....	1	1	1	....	4	4
Tonsillitis .....	....	13	13	13	....	57	47
Other Diseases	2	39	41	41	....	132	92
<i>Wounds and Injuries—</i>							
Injuries	4	52	56	55	1	239	186
Bites and Stings .....	....	12	12	12	....	52	35
Burns, Scalds &c. ....	....	9	9	9	....	71	33
Septic Sores	3	202	205	202	3	1402	615
Bruises, Cuts, &c., .....	....	98	98	97	1	451	239
Others .....	....	55	55	55	....	344	121
<i>External Eye Diseases—</i>							
Foreign Body .....	....	6	6	6	....	9	8
Stye .....	....	31	31	31	....	195	143
Blepharitis	3	26	29	28	1	215	201
Conjunctivitis	2	22	24	22	2	256	144
Iritis .....	....	4	4	4	....	25	15
Corneal Ulcer .....	....	3	3	3	....	47	28
Strabismus .....	....	5	5	5	....	17	11
Other Diseases .....	....	37	37	37	....	109	56

Group I.—Minor Ailments—Continued.

Disease or Defect.	No. of Defects treated under Authority's Scheme			Number of def'cts cured	No. of defects remain- ing under treatm't	No. of attend- ances at Clinic	No. of Con- sulta- tions
	From pre- vious Year	New Cases	Total				
<i>Infectious Diseases—</i>							
Measles	1	1	1	....	2	2
Chicken Pox	25	25	25	....	55	36
Mumps	37	37	37	....	65	65
Whooping Cough	2	2	2	....	8	8
Diphtheria	1	1	1	....	1	1
Scarlet Fever	1	1	1	....	5	5
<i>General—</i>							
Ill-health, &c.	68	68	68	....	177	125
TOTALS	19	1035	1054	1038	16	5740	2903

Total Number of Children Treated 786

**Group II. Defective Vision and Squint (excluding Minor Eye
Defects treated as Minor Ailments—Group I).**

Defect or Disease (1)	Number of Defects dealt with.					
	Under the Authority's Scheme.			Submitted to refraction by private practitioner or at hospital apart from the Authority's Scheme. (3)	Other-wise. (4)	Total (5)
	Old	New (2)	Total			
Errors of Refraction (including Squint)	263	257	520	....	....	520
Other Defects or Diseases of the eyes (excluding those recorded in Group I)	16	21	37	....	....	37
TOTAL	279	278	557	....	....	557

Total number of children for whom spectacles were prescribed :

(a) Under the Authority's Scheme	....	....	309
(b) Otherwise	....	....	....

Total number of children who obtained or received spectacles :

(a) Under the Authority's Scheme	....	....	268
(b) Otherwise	....	....	6

Group III.—Treatment of Defects of Nose and Throat.

NUMBER OF DEFECTS.			Received other Forms of Treatment. (4)	Total number Treated. (5)
Received Operative Treatment.				
Under the Authority's Scheme, in Clinic or Hospital. (1)	By Private Practitioner or Hospital, apart from the Authority's Scheme. (2)	Total. (3)		
143	....	143	103	246

GROUP IV.—DENTAL DEFECTS.

(1) Number of Children who were :—

(a) Inspected by the Dentist :

Routine Age Groups	Aged	3	88	}	Total 5693
		4	422		
		5	710		
		6	870		
		7	960		
		8	671		
		9	478		
		10	343		
		11	386		
		12	349		
		13	276		
		14	131		
		15	9		
Specials	122
GRAND TOTAL					5815

(b)	Found to require treatment	4125
(c)	Actually treated ..	3624
(d)	Re-treated during the year as the result of periodical examina- tion	1388

(2) Half-days devoted to { Inspection 57 } Total 465
 { Treatment 408 }

(3) Attendances made by children for treatment 4086

(4) Fillings { Permanent teeth 826 } Total 1035
 { Temporary teeth 209 }

(5) Extractions { Permanent teeth 284 } Total 3470
 { Temporary teeth 3186 }

(6) Administrations of general anaesthetics for extractions —

(7) Other operations { Permanent teeth 304 } Total 5712
 { Temporary teeth 5408 }

GROUP V.—UNCLEANLINESS AND VERMINOUS CONDITIONS.

(i)	Average number of visits per school made during the year by the School Nurses	8
(ii)	Total number of examinations of children in the Schools by School Nurses	27506
(iii)	Number of individual children found unclean (mainly Nits in Hair)	1990
(iv)	Number of children cleansed under arrangements made by the Local Education Authority	770
v)	Number of cases in which legal proceedings were taken—	
	(a) Under the Education Act, 1921	Nil
	(b) Under School Attendance Bye-laws	Nil

TABLE V(a).—Treatment of Defects of Nose, Throat, and Ear at Special Clinic.

DEFECTS.													
Number of cases referred for treatment.	Number of Consultations	Number of attendanc's for treatment	DEFECTS.										
			Tonsils considerably enlarged	Tonsils enlarged	Tonsils and Adenoids	Adenoids	Tonsillitis.	Inflam'd Turbinates.	Cervical and other Glands	Nasal Spurs and Deflections	Nasal Inflammation	Nasal Polypi	Discharging Ears
384	976	1524	48	39	66	18	18	4	65	11	19	3	106

DEFECTS (CONTINUED).													
Myringitis, Diseases and Perforation of Membranes	Drum destroyed	Thickened, Scarred and Opaque Membranes	Indrawn Membranes	Deafness (Slight)	Deafness (Severe)	Wax in Ears	Other conditions	No. for whom operation for Tonsils and Adenoids was advised	No. who received operative treatment for Tonsils and Adenoids	No. of other operations performed	No. of cases cured	No. of cases remaining under treatment or kept under observation	No. of cases for whom no Report is available
16	4	21	12	61	1	49	74	140	138	3	282	90	12

TABLE V (b).—ELECTRICAL IONISATION.

Number of cases referred for treatment.	Number of consultations.	Number of attendances for treatment	DEFECT.	Number of cases cured.	Number of cases still under treatment or obser- vation.	Number of cases for which no report is available
			Dischar- ging ears			
10	37	37	10	5	5	....

TABLE VI (a).—Treatment of Ringworm.

Number of cases			Number of Consultations with Doctor	Number of Attendances made by Children at Clinic	Number of Bacteriological Examinations.	Number of cases cured.	Number of cases still under treatment		Number of cases for which no report is available.
Old	New	Total					Attend- ing School	Not attend ing School	
60	115	175	826	2129	229	122	51	1	1

(b) X-Ray Treatment of Ringworm.

Number of Cases.			Number of X-Ray Exposures	Number of Cases cured.	Number of Cases remaining under treatment.	Number of cases for whom no report is available.
Offered	Refused.	Accepted				
17	11	6	21	2	4	....

TABLE VII.—Electrical Treatment.

Number of Cases.				Disease or Defect.						
Boys		Girls		Total	Number of Attend- ances for Treatment.	Infantile Paralysis	Functional Paralysis.	Naevus	Trach- oma.	Hairy Mole.
Old	New	Old	New							
....	4	6	13	23	177	4	1	16	1	1

TABLE VIII.—Summary of School Accidents which occurred during the Year 1927.
(Elementary School Children).

Serious	Number of Cases		Total Number of Attendances made by children at Clinic.	Number of cases where treatment was completed at Clinic.	Number of X-Ray Exposures.	Number of cases referred to Hospital or Private Practi- tioner for further treat- ment.	Number of cases resulting in permanent disability.
	Minor.	Total.					
3	110	113	575	109	12	4	....

NOTE.—Cases of simple fracture not resulting in permanent disability and cuts requiring stitching, however extensive, so long as no permanent injury but a good scar resulted, are included as minor injuries

TABLE IX (a).—SHOWING NUMBER OF CHILDREN DISCOVERED AT ROUTINE INSPECTION WITH ENLARGEMENT OF THE THYROID GLAND. YEAR 1927.

Group examined.	Number of Children examined.			Number of Children found with enlargement of the Thyroid Gland.		
	Boys	Girls	Total	Boys	Girls	Total
Entrants	553	596	1149	—	—	—
Intermediates	328	399	727	1	5	6
Leavers	661	661	1322	6	22	28
TOTAL	1542	1656	3198	7	27	34

TABLE IX (b).—TREATMENT OF ENLARGED THYROID AT SPECIAL CLINIC.

Number of Cases			Number of attendances for treatment.	Number of Consultations.	Number of cases cured	Number of cases still under observation and treatment
Old	New	Total				
35	13	48	382	306	20	28

TABLE X.—BACTERIOLOGICAL AND OTHER EXAMINATIONS CARRIED OUT DURING THE YEAR 1927.

Number of Bacteriological examinations	....	247
Number of Blood examinations—Histological		53
Urine—Number of Chemical examinations	....	6
Number of Microscopic examinations	....	4
Number of X-Ray examinations. (excluding treatment of ringworm).	....	42

HIGHER EDUCATION.

Statistical Tables

HIGHER EDUCATION.

TABLE I.—NUMBER OF CHILDREN ATTENDING THE SWINDON
SECONDARY SCHOOLS INSPECTED 1st JANUARY, 1927
TO 31st DECEMBER, 1927.

A.—ROUTINE MEDICAL INSPECTIONS.

	AGE GROUPS.										TOTAL
	11	12	13	14	15	16	17	18	19	20	
Boys	3	58	105	108	94	68	14	10	4	....	464
Girls	17	61	45	49	68	45	12	11	3	1	312
TOTALS	20	119	150	157	162	113	26	21	7	1	776

B.—OTHER INSPECTIONS.

Number of Special Inspections	....	145
Number of Re-inspections.	....	382
		<u>527</u>

TABLE II.—Return of Defects found in the Course of Medical Inspection in 1927.

DEFECT OR DISEASE.	ROUTINE INSPECTIONS.		SPECIAL INSPECTIONS.	
	No. of Defects.		No. of Defects	
	Requiring Treatment.	Requiring to be kept under observation but not requiring treatment.	Requiring Treatment.	Requiring to be kept under observation but not requiring treatment.
(1)	(2)	(3)	(4)	(5)
<i>Nutrition</i> —Poor	2	....	....	....
<i>Skin</i> —				
Non-tuberculous Diseases	8	....	9	....
<i>Eye</i> —				
Conjunctivitis	1	....	....	....
Defective Vision	100	....	36	....
Other Disease or Defect	1	9	5	....
<i>Ear</i> —				
Otorrhoea	4	....	2	....
Defective Hearing	7	....	1	....
Other Conditions	....	....	5	2
<i>Nose and Throat</i> —				
Enlarged Tonsils	3	7	2	1
Enlarged Tonsils and Adenoids	....	1	1	....
Adenoids	1	....	....	....
Other Conditions	2	1	....	1
<i>Glands</i> —				
Enlarged Thyroid	6	2	1	....
Enlarged cervical	1	....	....	2
<i>Heart</i> —				
Functional	1	21	2	4
Anaemia	6	1	....	....
<i>Speech</i>				
Defective	1	....	....	....
<i>Teeth</i>				
Caries	154	....	....	....
<i>Lungs</i> —				
Rales &c.	1	....	....	....
Bronchitis	2	....	....	....
<i>Nervous System</i> —				
Chorea	1	....	....	....
Instability and Overstrain	3	3	....	....
Other conditions	7	8	3	....
<i>Deformities</i> —				
Spinal Curvature	20	1	....	1
Flat feet	12	....	....	....
Other Forms	9	....	....	2
<i>Other Diseases or Defects</i>	13	7	68	6

TABLE III.—CONDITION OF THE TEETH OF SCHOLARS DENTALLY INSPECTED AT THE SECONDARY SCHOOLS DURING THE YEAR 1927.

**THE COLLEGE SECONDARY SCHOOL.
BOYS.**

Year of Birth.	Number of carious teeth				Number free from caries.	Total number examined.
	1	2	3	4		
1909	2	1	....	1	3	7
1910	5	2	....	1	3	11
1911	7	1	1	1	3	13
1912	5	2	1	2	8	18
1913	14	4	1	1	12	32
1914	12	7	....	1	14	34
1915	8	4	....	....	8	20
1916	2	2	....	....	2	6
1918	....	1	....	....	....	1
TOTALS	55	24	3	7	53	142

GIRLS.

Year of Birth.	Number of carious teeth				Number free from caries.	Total number examined.
	1	2	3	4		
1909	1	....	1	....	2	4
1910	2	3	....	....	4	9
1911	3	2	....	....	3	8
1912	3	3	2	3	7	18
1913	4	7	1	1	3	16
1914	4	1	1	1	4	11
1915	6	2	....	1	7	16
1916	3	1	....	....	1	5
TOTALS	26	19	5	6	31	87

**EUCLID STREET SECONDARY SCHOOL.
BOYS.**

Year of Birth	Number of carious teeth.								Number free from caries.	Total Number examined.
	1	2	3	4	5	6	7	8		
1909	1	....	....	....	....	....	....	....	....	1
1910	1	....	....	1	....	....	....	....	....	2
1911	2	2	1	1	....	....	....	....	1	7
1912	10	4	6	....	2	....	1	....	15	38
1913	7	5	2	2	....	....	....	....	8	24
1914	13	3	3	1	....	....	....	1	15	36
1915	4	6	1	1	....	....	....	....	8	20
1916	1	1	....	....	....	....	....	....	6	8
1917	1	....	....	....	....	....	....	....	....	1
TOTALS	40	21	13	6	2	....	1	1	53	137

EUCLID STREET SECONDARY SCHOOL.

GIRLS.

Year of Birth.	Number of carious teeth.								No. free from caries.	Total number examined
	1	2	3	4	5	6	7	8		
1908	....	....	....	....	....	....	....	....	1	1
1909	....	....	....	....	....	....	....	....	1	1
1910	....	....	....	....	....	1	....	....	2	3
1911	4	1	2	....	....	....	....	1	1	9
1912	3	2	3	4	....	1	....	....	6	19
1913	5	4	4	1	....	1	....	....	3	18
1914	4	5	....	....	....	....	....	....	9	18
1915	4	2	2	1	....	....	....	....	5	14
1916	2	4	....	....	....	....	....	....	4	10
TOTALS	22	18	11	6	....	3	....	1	32	93

THE COMMONWEAL SECONDARY SCHOOL

BOYS

Year of Birth	Number of carious teeth.						No. free from caries.	Total number examined
	1	2	3	4	5	6		
1911	2	1	....	2	1	....	2	8
1912	9	7	3	1	1	....	9	30
1913	10	3	2	2	....	....	13	30
1914	10	8	2	2	1	....	12	35
1915	8	7	....	1	2	2	8	28
1916	7	4	1	....	....	....	4	16
TOTALS	46	30	8	8	5	2	48	147

GIRLS

Year of Birth.	Number of carious teeth.							Number free from caries.	Total number examined
	1	2	3	4	5	6	9		
1909	1	....	....	....	....	....	....	1	2
1910	3	2	....	....	....	....	....	1	6
1911	3	....	1	....	....	1	....	4	9
1912	4	8	....	....	....	....	....	12	24
1913	5	1	1	3	1	....	....	8	19
1914	6	3	1	....	....	....	....	9	19
1915	6	2	1	1	....	....	....	8	18
1916	10	1	1	....	1	1	1	7	22
TOTALS	38	17	5	4	2	2	1	50	119

TABLE III (Continued).—SUMMARY OF RESULTS OF DENTAL INSPECTION AT THE
SECONDARY SCHOOLS YEAR 1927.

Secondary School	ENTRANTS.		RE-INSPECTIONS			Total number Inspected.	Total number referred for treatment	Number free from caries.
	Number Inspected	Number referred for treatment	Number Inspected	Number referred for treatment	Number referred for treatment			
The College	37	24	192	121		229	145	84
Euclid Street	56	38	174	106		230	144	85
The Commonweal	71	46	195	122		266	168	98
TOTAL	164	108	561	349		725	457	267

Percentage of Entrants requiring treatment 65.8
Percentage of Children Re-inspected requiring treatment. 62.2
Percentage of total number of children inspected requiring treatment. 63.0

TABLE III.—(Continued).

DENTAL INSPECTION AND TREATMENT.

(1) Number of children who were :—

(a) Inspected by the Dentist :

Age Groups	Aged	9	1	}	Total	725
		10	1			
		11	68			
		12	116			
		13	153			
		14	138			
		15	147			
		16	54			
		17	31			
		18	14			
		19	2			
Specials		—
GRAND TOTAL		725

(b)	Found to require treatment (As result of 1926 Inspection)	....	....	313
(c)	Actually treated	....	....	164
(d)	Re-treated during the year as the result of periodical examination	101

(2)	Half days devoted to :	{ Inspection 11 Treatment 78 }	Total	89
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(3)	Attendances made by children for treatment	323
-----	--	------	-----

(4)	Fillings	{ Permanent teeth 230 Temporary teeth — }	TOTAL	230
-----	----------	--	-------	------	-----

(5)	Extractions	{ Permanent teeth 62 Temporary teeth 37 }	TOTAL	99
-----	-------------	--	-------	----

(6)	Administrations of general anaesthetics for extractions	—
-----	---	---

(7)	Other operations	{ Permanent teeth 61 Temporary teeth 4 }	TOTAL	65
-----	------------------	---	-------	----

TABLE IV.

**Defective Vision and Squint (excluding Minor Eye Defects
treated as Minor Ailments).**

Defect or Disease. (1)	Number of Defects dealt with.					
	Under the Authority's Scheme			Submitted to refraction by private prac- titioner or at hospital apart from the Auth- ority's Scheme. (3)	Other- wise. (4)	Total (5)
	Old	New (2)	Total			
Errors of Refraction (in- cluding Squint.)	58	35	93	....	....	93
Other Defects or Disease of the eyes (excluding those recorded in Group 1).	3	....	3	....	....	3
TOTAL	61	35	96	....	....	96

Total number of children for whom spectacles were prescribed :

(a)	Under the Authority's Scheme	....	....	65
(b)	Otherwise	....	....	—

Total number of children who obtained or received spectacles :

(a)	Under the Authority's Scheme	....	....	62
(b)	Otherwise	....	....	1

TABLE V.—Summary of Accidents which occurred to Secondary School Children during the year 1927.

NUMBER OF CASES.		Total Number of attendances made by children at Clinic.	Number of Cases where treatment was completed at Clinic.	Number of X-Ray Exposures.	Number of Cases referred to Hospital or Private Practitioner for further treatment.	Number of Cases resulting in permanent disability.
Serious	Minor					
....	47	170	45	10	2	....

NOTE.—Cases of simple fracture not resulting in permanent disability and cuts requiring stitching, however extensive so long as no permanent injury but a good scar resulted, are included as minor injuries.

TABLE VI. TREATMENT OF ENLARGED THYROID AT SPECIAL CLINIC.

Number of Cases			Number of attendances for treatment.	Number of Consultations.	Number of cases cured	Number of cases still under observation and treatment.
Old	New	Total				
6	1	7	71	45	3	4

TABLE VII.—Treatment of Defects discovered in Secondary School Children.—Year 1927.

NUMBER OF DEFECTS.						
DISEASE OR DEFECT.	Referred for treatment.	TREATED.			Not Treated.	For whom no Report was available.
		Under Local Education Authority's Scheme.	Otherwise	Total		
Nutrition	2	2	...	2	...	...
Skin	17	9	...	9	8	...
Vision and Squint	136	37	3	40	95	1
Eye Disease	7	5	2	7	...	...
Dental Disease	154	...	31	31	122	1
Ear Disease	11	6	1	7	4	...
Defective Hearing	8	2	1	3	5	...
Nose and Throat	9	8	1	9	...	...
Enlarged Thyroid	7	1	1	2	5	...
Enlarged Glands						
(Non-Tuberculous)	1	...	...	...	1	...
Heart and Circulation	9	2	1	3	6	...
Lungs Defective	3	...	2	2	1	...
Nervous System	14	3	3	6	8	...
Deformities	41	1	14	15	26	...
General	81	68	6	74	7	...

This Table only includes Dental Disease discovered at routine inspection.
Dental caries discovered by dental inspection are not included.



Borough of Swindon

Annual Report

OF THE

Medical Officer of Health

FOR THE YEAR 1927

BY

DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.

Report of the Chief Sanitary Inspector

FOR THE YEAR 1927.

John Drew (Printers) Ltd., Swindon.

BOROUGH OF SWINDON.

Health Committee.

Chairman—Councillor A. E. HARDING.

Vice-Chairman—Councillor Mrs. L. FRY.

Members.

THE MAYOR (Alderman W. WEBB).

Alderman A. H. WHEELER	Councillor A. W. HAYNES
Councillor T. MANNING	„ R. G. CRIPPS
„ A. R. SMITH	„ G. DAVIES
„ G. H. HUNT	„ M. ASHBY
„ C. PRICE	„ F. E. ALLEN
„ J. NASH	„ J. STAMPER
„ R. GEORGE	„ Mrs. M. GEORGE
Councillor W. T. KIMBER	

Maternity and Child Welfare Sub-Committee.

Chairman—Councillor Mrs. M. GEORGE.

Members.

Alderman A. H. WHEELER	Councillor M. ASHBY
Councillor A. R. SMITH	„ F. E. ALLEN
„ Mrs. L. FRY	„ J. STAMPER
„ T. MANNING	„ W. T. KIMBER
„ G. H. HUNT	Miss K. J. STEPHENSON
„ C. PRICE	Miss D. P. CHAPPELL
„ J. NASH	Mrs. ARNOLD-FORSTER
„ R. GEORGE	Mrs. WESTON
„ A. W. HAYNES	Mrs. SCHMITZ
„ R. G. CRIPPS	Miss I. F. MOORE
„ G. DAVIES	Dr. C. E. S. FLEMMING
„ A. E. HARDING	

Town Clerk—ROBT. HILTON, Esq.

BOROUGH OF SWINDON, PUBLIC HEALTH DEPARTMENT.

STAFF.

*Medical Officer of Health, School Medical Officer and Medical Superintendent
of the Isolation Hospital.*

DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.

Assistant Medical Officers of Health.

G. W. FLEMING, L.R.C.P. (E.), L.R.C.S. (E.), D.P.H.

VIOLET KING, M.B., Ch.B.

Chief Sanitary Inspector.

F. H. BEAVIS.

Certificate of the Royal Sanitary Institute.

Certificate of the Royal Sanitary Institute for Meat Inspection.

Certificate in Building Construction.

Assistant Sanitary Inspectors.

H. A. BANWELL

Certificate of the Royal Sanitary Institute.

Certificate of the Royal Sanitary Institute for Meat Inspection.

Certificate of the Worshipful Company of Plumbers and Final

Certificate City and Guilds.

Certificate in Hygiene.

D. DAVIES.

Certificate of the Royal Sanitary Institute.

Certificates of the Royal Sanitary Institute and Liverpool
University for Meat Inspection.

Certificates in Sanitary Science and Building Construction.

J. BOWERS.

Certificate of the Royal Sanitary Institute.

Head Clerk.—ERNEST A. BEASANT.

Assistant Clerks—H. J. PUGH

W. M. WATTS.

Assistant Clerk and Clinical Assistant—Miss M. E. BUTLER.

Health Visitors.

Miss M. HANNA

3 years General training.

State Registered Nurse.

Certificate of the Central Midwives Board.

Miss M. JOHNS.

3 years Certificate of Hospital training.

Certificate of the Central Midwives Board.

Queen's Nurse.

Disinfector—G. GREENAWAY.

Voluntary Helpers at Maternity Centres—

Mrs. E. SCHMITZ.

Mrs. WESTON

Mrs. OSMOND.

Mrs. HUMPHRIES.

Mrs. HULANCE.

To the Chairman and Members of the Public Health Committee.

LADIES AND GENTLEMEN,

The health of Swindon, which had been unusually good during 1926, was rudely shaken by an epidemic of influenza which started somewhat abruptly about the 15th January, 1927, reached its peak on the 24th and collapsed with remarkable suddenness on the 15th February. Unlike most previous visitations of influenza, that of 1927 left little behind it, and immediately the epidemic was over, the health of the Town returned to the satisfactory condition that had ruled previously.

The Spring was unusually healthy, but in June two causes for anxiety arose ; the first, the prevalence of pneumonia of the epidemic type, which is not uncommon at the end of dry Springs ; and the second, a brisk rise in notifications of puerperal pyrexia. Neither of these occurrences was in any sense alarming.

Towards the end of August a group of cases of pneumonia of obscure epidemiological bearing was admitted into Gorse Hill Hospital from Swindon and the surrounding districts. To this group of cases can be assigned, directly or indirectly, the chief troubles of the year under review. This matter will be dealt with more fully in the chapter on infection. Here it will suffice to say that the public health record of a town is a history which is continuous and in which the various events are intimately connected with those which go before and those which follow. The bearing of this becomes apparent when it is realized that though there was much threatening the town, particularly in the latter half of the year, nothing came to a head and the record is one of unexampled healthiness.

We are only at the beginning of the understanding of the natural history of disease. The application of biometry, which is the scientific measurement of biological statistical evidence, enabling us to correlate biological factors with accuracy ; the researches of modern physiology, now dominated by the philosophy of evolution and relativity ; and the practical study of epidemiology by experiment and universal charting ; are modifying our ideas of the nature and distribution of disease to an extent so great, that of the theories and practices of the last century, but little remains unaltered. Until recently, diseases have been considered, with but few exceptions, to be individual isolated phenomena and the human body as an entity which can be definitely cut apart from its environment. These ideas we now know to be erroneous. The body cannot be separated from its environment, and its physiological functions, and the disturbances to which these functions are subject, are events in the progress of organic

evolution, intimately connected with, and inseparable from, the whole of creation. We should therefore expect that though disease may be more obvious in some individuals than in their fellows, it is probably impossible for any member of the community to suffer without the whole of his species suffering with him. Even with such imperfect information as we are able to gather, it is often possible to trace indefinite connections between the various diseased conditions which seem to pick out individual members of the community. But it does not follow that diseases which are connected together can be placed under the same label. The fragment of medical history which is related in the chapter on epidemiology in this report, and several others which appear in the report of the Isolation Hospital, bear evidence of a connection between certain conditions which, until recently, were believed to be entirely separate.

The drop in the birth rate in 1927 was remarkable, the rate being by far the lowest recorded in the history of the Borough, even including the post war years, and calling for an explanation other than that of normal variation or progressive decline of fertility. It is possible that the cause may be found in the epidemic of influenza, which produced at the time a considerable number of miscarriages and which seemed to leave behind a tendency to miscarry and an interference with normal fertility. It will not be possible, however, until the end of 1928, to discuss with advantage this possible connection between the influenza outbreak and fertility.

The death rate was slightly higher than in 1926. The rate is based on an estimated decreased population, but the actual numbers of deaths attributed to the town were 26 more in 1927, than in the previous year. The number of deaths of children was the lowest ever recorded and actually gives the lowest rates. The infant mortality rate was slightly lower than last year, being roughly 47 against 48, but the figure appears much less favourable than it really is, for the decline in the number of births in 1927 from those of 1926 produces an error greatly biased against the infant mortality rate.

The climatic conditions during 1927 did not please everybody, but they were, on the whole, highly conducive to health. The dry spell in late Spring and the cold snap in December had a slightly adverse influence on the health of the population, but the wet Summer, as is always the case, was distinctly favourable.

The state of employment in the town was good, the year being one of fairly general prosperity. Evidence of distress of such extent or nature as would have bearing upon the health of the inhabitants was very slight.

STAFF OF THE PUBLIC HEALTH DEPARTMENT.

A third assistant sanitary inspector was appointed early in the year, otherwise the staff of the Public Health Department underwent no change.

GENERAL PUBLIC HEALTH AND SANITATION OF THE TOWN.

This being an ordinary report, it is only necessary to mention matters which were either new during the year or which underwent substantial alteration.

Towards the end of the year the Town Council petitioned for an extension of the Borough boundaries, to include that part of Swindon which is at present without their jurisdiction. It has been mentioned in these reports on many occasions that the present division of Swindon between two different authorities produces considerable difficulty in public health administration, particularly in connection with epidemiology. Should the extension sought by Swindon be granted, it will simplify materially the investigation of epidemic disease.

The most prominent sanitary improvement in the town during 1927 was the re-organization of the public conveniences. Of the five up to date conveniences for both sexes which the Council decided to erect, four were either completed or were within a few weeks of completion at the end of the year. The fifth has not yet materialized, owing to the great difficulty in finding a suitable site for its erection. The new conveniences are quite up to date and are a credit to the town, and they will admit of the closing of the majority of the older installations, which merit nothing but to be forgotten.

The major sewage works in the town, which were reconstructed some years ago, did not fulfil everything that was asked of them, and during 1927 certain improvements were carried out and some more ambitious improvements and extensions were agreed to.

The scheme for the enlargement and improvement of the waterworks was in progress during 1927; when completed it should insure the efficiency of this service for many years to come.

~~A bylaw to prevent the fouling of the footway by dogs was passed by the Council and came into force during 1927, and a decision to supply baskets to mitigate the nuisance of the littering of the highway with waste paper, etc., was also reached.~~

Not a single complaint relative to the public water supply was received by the Health Office during 1927 and no matter calling for attention arose from the results of analysis.

In Old Swindon there were, in the past, a number of wells used for domestic supply which were open to suspicion. In the course of investigations into the prevalence of infectious disease, particularly into sporadic cases of para-typhoid, attention was directed to several of these wells and, as the results of analyses were unsatisfactory, the majority have now been closed.

During 1927 there were some complaints of flooding from the lower part of the town. Considering the abnormal rainfall of the year and the great difficulty of adequately draining part of the low-lying district, the extent of this trouble was less than might have been expected. It is noteworthy that the trouble from flooding in 1927 was very much less than in previous wet years, which is evidence that the measures that were taken a few years ago to relieve the storm waters have, to a great extent, fulfilled their purpose.

Some 87 per cent. of the houses in Swindon are now supplied with sanitary dustbins and action is being taken to enforce this provision on those who have not yet obeyed the law.

The collection and disposal of refuse is now satisfactory and during the year there were no complaints, save on one or two occasions when, owing to mechanical breakdown of the motors, there was a delay of a few hours in clearing.

INSPECTION AND CONTROL OF FOOD STUFFS.

The Sale of Food and Drugs Acts are administered by the County Authority, but the more important part of the control of foods falls upon the Borough as the local authority for carrying out the Public Health Acts. The most important articles with which we have to deal are meat and milk. These foods, being of animal origin, can be potent spreaders of disease and a most rigid and constant scrutiny of them is necessary to ensure safety.

The inspection of meat is one of the most onerous duties of the Sanitary Department. So far as meat slaughtered in Swindon is concerned, the system of inspection is complete and evasion practically impossible. Meat imported from abroad carries with it a safeguard which need never be questioned, all that is necessary with foreign meat being to guard against the sale of any that may have decomposed since importation. But things are very different and exceedingly unsatisfactory in connection with meat

slaughtered in parts of England where the Meat Regulations are ignored or scamped. For there are such districts and there is a trade in bad meat which takes advantage of the lax administration of certain authorities. Since the evidence of disease in meat is found mainly in the organs and in parts which can be removed, it is possible to select pieces from a diseased and dangerous carcass and to expose them for sale with but little fear of detection. The greatest care and labour is given by the Sanitary Inspectors in examining meat that is brought into the town from an unknown or doubtful source, but it is only exceptionally that disease in such meat can be detected.

Towards the end of the year a seizure of meat from an outside source led to a prosecution and conviction in January, 1928, which will act as a very salutary warning to any who attempt to sell diseased meat in the town.

The amount of meat surrendered on account of disease during 1927 (48 tons) was much greater than any previous record. All this meat was found in the course of routine inspection of slaughterhouses and shops and was voluntarily surrendered by the butchers for destruction. Rather than to be alarmed at the somewhat large quantity of meat which was found unfit for consumption on slaughter, the public should understand that this is evidence of its security and, with the present method of meat inspection and the good feeling which exists between the trade and the Sanitary Department, citizens are absolutely safe in purchasing meat *which has been slaughtered within the Borough*.

During 1927 much attention was given to the milk supply, systematic bacteriological examinations of the milk sold in the town now being carried out at the Health Office. 28 bacteriological examinations were made, the details of which appear in the appendix.

The spread of tuberculosis by milk is a matter of the most profound importance, and administrative machinery for rendering the sale of such milk almost impossible is in force within the County. The majority of this work falls on the County Authority, the duties of the Local Public Health Department being mainly those for detection. In 1927 one sample of milk called for action in connection with tuberculosis, but it was possible to remove the suspicion that this milk was tuberculous, so that, in fact, no milk containing the tubercle bacillus occurred among the samples taken for scrutiny.

A matter of almost equal importance is the state of cleanliness. In general, samples were good, but occasionally a milk

sample containing more organisms or more deposit than are passable is met with and in such cases the attention of those responsible is drawn to the analysis and steps required to be taken to improve matters. Every milk purveyor in the town now knows that at any time a sample of his milk may be taken and submitted to bacteriological examination and if it is found unsatisfactory he will hear something about it ; and it is not intended that the matter will end merely in a complaint and a few words of advice. But, as a matter of fact, during the year under review there was no occasion to go further than to draw the attention of some of the dairymen to the fact that a sample taken had been found to be below the standard upon which we insist.

The results found by the bacteriological examination of milk can only be appreciated by those who are trained in biology. The impurity looked for is living matter undergoing rapid proliferation and from the mere figures of the analysis no conclusion can be drawn unless certain facts in connection with the history of the sample are taken into account. But, on the whole, the bacteriological examination of milk gives the most reliable and most important evidence of its safety or danger.

HOUSING.

289 new houses were erected in the Borough during the year, of which 4 were erected by the Corporation and 285 by private enterprise. In addition, 100 houses were added to the Corporation estate outside the Borough.

The population of the Borough declined by 170 during 1927 and the 289 houses erected can accommodate 1156 persons at the very low average rate of four persons per house. We can reckon, therefore, that the overcrowding in Swindon was relieved to the extent of 1,300 persons, which should put an end to overcrowding locally.

There is indeed at present comparative little overcrowding in Swindon, but that little is serious and neither mitigated by, nor ever likely to be mitigated by, increased building, unless such increased building includes the erection of houses of the cheapest possible type, let at an uneconomic rate.

The cases of overcrowding which come before the notice of the Health Department are somewhat evenly distributed through the town, for Swindon possesses no slums and no district of any magnitude where the general state of the people is one of dangerous density.

The great amount of research which has been done, particularly in the past two years, into the subject of overcrowding and its influence on disease, has enabled us to get somewhere near the truth of the matter and, as is generally the case, the truth is not what it was presumed to be. We give again this year a table showing the incidence of notifiable disease and its relationship to room space and, as usual, this table deals only with those cases in which the facts can be guaranteed. To draw any inference from the table for one year would be bad, for from such small numbers no results are significant, but if one takes the evidence from the last three years together, one is justified in drawing from it a very rough and crude inference. In Swindon it appears that infectious disease occurs considerably more commonly in houses in which the number of inhabitants is greater than the standard ; that this is true for the four diseases which are considered, namely, pneumonia, scarlet fever, diphtheria and tuberculosis ; that in regard to tuberculosis the figures are not significant, but as regards the three acute infections, they are. To argue from this particular case to a general proposition that infectious disease is more common in crowded than in uncrowded houses is not legitimate and the evidence of districts such as Glasgow and Liverpool show clearly that such direct connection between infectious disease and bad housing conditions does not exist ; in fact as regards scarlet fever and diphtheria, the general inference to be drawn is that their prevalence bears no relationship to housing conditions. As regards tuberculosis, the question is more complicated.

It is a common experience in this country that if the inhabitants of a slum where infectious disease is low are re-housed in a modern and up-to-date housing estate, infectious disease becomes more prevalent and generally assumes epidemic form. The light that has been thrown upon epidemiology during recent years, particularly by the important experimental work which is known as 'Topley's mice,' explains in the most perfectly logical manner why outbreaks of infectious disease follow the development of housing schemes. In Swindon Borough the several new estates have, up to the present, got off somewhat lightly, but this is due to the fact that most of the new houses in the Borough, practically all of which are sold to the tenants, are only within the powers of tenants who only possess the money to buy their houses because they possess no families to have a prior claim upon their incomes. But in the housing estates just outside the Borough, particularly in those built by local authorities and let, as they should be let, to those citizens who are rearing families, severe epidemics of infectious disease have occurred and inevitably will occur.

The connection between bad housing and disease is one of such great importance and one in which so many statements have been made which rest upon no scientific foundation, that we may be pardoned for enlarging somewhat upon this matter.

Houses are expensive (the average value of a house is frequently, perhaps generally, greater than the commercial value of its inhabitants, taking the estimate of citizen value which is generally held in this country, though the American actuaries reckon the value of citizens at about ten times this sum) and they will not grow on command, so we should be clear as to what advantage we are going to get from building them. There are, of course, values in a good house quite apart from any question of health and these do not concern us, for so far as we are concerned everything that is not necessary or desirable for health is a luxury. We have said that infectious disease is not more common, and we might add that it is less fatal, in the inhabitants of crowded poorer parts than in better suburbs where spacing is ample.

It is true that tuberculosis is more often found in unsatisfactory than in satisfactory houses (though in Swindon it is not), but it has been shown fairly conclusively that the chief reason why tuberculosis is found in bad property is because it gravitates there. Dr. Kay Menzies, the Medical Officer to the London County Council, has shown that the death rate from tuberculosis in poor class boroughs is very much higher than in the better class boroughs, but that its relation to the general death rate is the same in both.

From what we have said it would appear that bad housing was not a menace to health, but there are other factors which put the matter in a very different light. In crowded slums, the excessive contact between individuals leads to the unchecked spread of infection. Under normal circumstances, infection, though it produces disease in a few, produces immunity in the majority, causing a high level of herd immunity which acts as a protection; but this immunity is not proof against a severe assault, and in times of epidemics when the virulence of infection is exalted, this immunity will break down and the overcrowded districts suffer severely. Moreover, the constant strain of continuous infection produces an extent of ill-health, of minor reactions and of complete breakdowns comparatively early in life, so that the lives of those who live in bad or overcrowded houses are considerably shortened.

The experiments that were carried out in Glasgow under the auspices of the Medical Research Council of the Privy Council show most clearly that the social factor which of all is the most important in the health of the community, is the capacity of mothers to carry out their maternal functions. So striking was

the evidence upon this point that it is scarcely too much to say that an efficient mother under the worst possible circumstances will rear more healthy progeny than an indifferent mother with everything in her favour, and brings down the housing question to this proposition: that bad housing breaks the heart of the housewife or renders it impossible for her to perform her functions. From this it is clear that the value of a house is to be judged, not from the point of view of the architect, but from that of the woman who is going to look after it.

	Pneumonia	Scarlet Fever.	Diphtheria	Tuber- culosis.
No. of Cases	167	51	18	87
No. of Rooms	899	303	108	446
No. of Persons	929	280	97	416
Rooms per Person	0.96	1.08	1.11	1.07

From the 1921 Census, the standard number of rooms per person is 1.15.

From the Census of 1921 we know that there was 1.15 rooms per person in the Borough. At the end of 1921 there was one house to 4.45 persons and at the end of 1927 there was one house to 3.97 persons. From these figures it is obvious that the town, as a whole, is not overcrowded and that such house shortage as existed after the War has, theoretically, been relieved. But the problem of overcrowding and of the housing of the people is not solved, nor will it ever be solved merely by the building of houses. In order that the people may be housed decently, that overcrowding may be abolished, it is necessary, not only to build, but to destroy. Owing to the acute shortage of houses which existed after the War, it was essential to build quickly and impossible to pull down anything that could shelter. But the position is now changed, especially in those towns where building has proceeded at a satisfactory rate. This is the position in Swindon and it would seem that we have now come to the time to re-house that section of the population which is living in overcrowded and squalid houses, and as we supply them with more fitting accommodation we should destroy their old haunt, else for certain the old haunt will be utilized again and the old trouble go on for ever.

HOSPITAL ACCOMMODATION.

Early in the year, the G.W.R. Medical Fund Society opened a temporary addition to their hospital, adding 30 beds to the existing 12. This addition, equipped almost exclusively for surgery, materially relieved the lack of beds for surgery. The building is, however, only of a temporary nature.

The Victoria Hospital decided to proceed with a proposed extension and there is reasonable ground for believing that progress will be made during 1928. The pressure on the hospital was slightly less since the opening of the G.W.R. temporary hospital, allowing for allocation of beds to medical and special cases, a provision which had been needed urgently for many years. Towards the end of the year a resident House Surgeon was appointed, a step which will have great bearing upon the future development of the hospital's activities. The Medical Officer of Health of the Borough was appointed on the staff of the Hospital, as honorary physician for preventive medicine, a position which though almost purely formal, eases the way for a more satisfactory co-ordination of the various hospitals in the town.

There is hope of the new Maternity Hospital being ready in 1929. This will satisfy the needs of pregnancy and delivery and will afford accommodation for the diseases of early infancy, for which there is no provision elsewhere.

The hospital at Gorse Hill is able to deal with all cases of acute infections and the Venereal Diseases Hospital of the County Council accommodates venereal disease and ophthalmia neonatorum.

There is no institution for the treatment of tuberculosis nor of mental disease within the Borough. Orthopaedic cases are sent to Bath Orthopaedic Hospital, eye cases to Oxford (at present, but it is hoped to afford accommodation for these in Victoria Hospital) and ear and throat cases are now treated at Victoria.

With the increased accommodation which will be available when the proposed extensions to Victoria and the New Maternity Hospital are ready, nothing more will be needed except improved co-ordination to render the town fully equipped for everything except mental and tuberculosis cases and conditions which, because of their infrequency, can only receive adequate treatment at great centres.

Maternity
and Child Welfare.

MATERNITY AND CHILD WELFARE.

In 1927, the extension to infants of all benefits available for school children, consolidated the work of the department which has now assumed a form, final in principle and up-to-date in detail, except for the provision of beds for early infancy which the new maternity hospital will furnish. There will then be in Swindon no curable disease of childhood for which the machinery for cure does not exist, no preventable disease which is not prevented, save by actual neglect of the means of prevention. We have passed from the stage when children suffering from curable conditions could be made healthy if treatment were actively sought, to that in which they cannot be kept unhealthy, without a certain amount of obstinacy.

The maternal side of maternity and child welfare is in a less advanced state of development. The ante-natal clinic, which is its nucleus, is going ahead rapidly and well, but extensions in various directions are necessary for us to insure that the preventable deaths and diseases of motherhood shall in fact be prevented.

The title 'ante-natal clinic' has a morbid ring about it, suggesting an out-patient department, so it would be better to call the centres "Women's Consultation Centres." The work of these centres is emphatically not that of the out-patient department of the hospital. They do not exist for the treatment of disease, but for its prevention, and the true work of these clinics really ceases when any diseased condition calls for diagnosis. It is now recognized universally that what may be called the clinic system will, in the immediate future, be the agent upon which we shall rely for the prevention of such disease as is preventable and for the early recognition of disease which, in the present state of knowledge, cannot be prevented.

The system, so far as it refers to children, exists in Swindon and in many parts of England and the rest of the world in a fairly complete condition and there is no particular difficulty in extending it to women (other than employed women) in much the same way, by merely extending the existing so-called ante-natal clinics to include supervision of women throughout the reproductive period and into that age when cancer becomes a menace. The research of the past year has shown that cancer of the female reproductive organs, which is perhaps the greatest of all risks in women, is not such a desperately serious disease if it is recognized at a sufficiently early date. It would be possible at clinics to recognize the disease early and as a matter of course. Under present circumstances, the recognition of cancer in an early stage is quite exceptional, for people will not go to doctors or to hospitals until they either know they are ill or think they are ill. The essence of the clinic system is that persons go to them not because they are ill, but in order to keep well.

**ANNUAL STATISTICS RELATING TO THE MATERNITY
HOSPITAL.—1927.**

	Borough	County.	Total.
(1) Number of cases in the home on 1st January, 1927.	7	1	8
(2) Number of cases admitted during 1927.	181	52	233
(3) Average duration of stay	13 days.	16 days.	
(4) No. of cases delivered by—			
(a) Midwives	116*	29	145
(b) Doctors	42	19*	61
No. of cases in which no delivery took place	24	5	29
(5) No. of cases in which medical assistance was sought by the midwife with reasons for requiring assistance.			
(a) Ante-natal	3	2	5
(b) During labour.	15	8	23
(c) After labour.	4	1	5
(state separately No. of ruptured perineums which required suture)....	11	7	18
(d) For infant	6	2	8
(6) No. of cases notified as—			
(a) Puerperal Fever, and	(a) 1 treated throughout at the Maternity Hospital.		
(b) Puerperal Pyrexia,	(b) 1 treated throughout at the Maternity Hospital.		
(<i>i.e.</i> , rise of temperature to 100.4°F. or its recurrence within that period) with result of treatment in each case.	5 removed to Fever Hospital.		
	All recovered.		
(7) No. of cases of pemphigus neonatorum.	Nil.		
(8) No. of cases notified as ophthalmia neonatorum with result of treatment in each case.	2. Both recovered without injury to the eyes.		
(9) No. of cases of "inflammation of the eyes," however slight.	5.		

* One delivery admitted 1926.

(10) No. of infants not entirely breastfed while in the Institution, with reasons why they were not breastfed.	1 Bottle fed (Mother went to Asylum). 4 Received supplementary feeds temporarily (delayed secretion).
(11) No. of maternal deaths with causes.	Nil.
(12) No. of foetal deaths— (a) Stillborn, and (b) within 10 days of birth and their causes—and the results of the post mortem examination if obtainable.	(a) 9 Stillbirths :— 1 Severe albuminuria of mother. Premature 32 weeks. 1 Diabetes of mother. Macerated. 1 Breech presentation. Ante-partum haemorrhage. 1 Syphilis. Hydrocephalus Macerated. 1 Breech presentation. Macerated. 1 Eclampsia of mother. Post mature. 1 Syphilis. Hydrocephalus. Macerated. 2 No obvious cause. (b) 9 Deaths under 10 days :— 2 Premature twins weighing $1\frac{1}{2}$ lbs. and $1\frac{3}{4}$ lbs. 4 Premature. 30 weeks, 32 weeks, 32 weeks and $6\frac{1}{2}$ months respectively. 1 Eclampsia of mother. 1 Congenital heart disease. 1 No obvious cause.

THE MATERNITY HOSPITAL.

The work of the Maternity Hospital during 1927 was similar in detail to that of the two years previous, but we were fortunate in 1927 in having no maternal deaths. The number of admissions to the Hospital was 12 less in 1927 than in 1926. The County cases increased by 14, about a 40 per cent. increase, but the Borough cases dropped from 207 to 181. This is accounted for by the great drop in the birth rate which occurred last year, the proportion of deliveries which take place in the Maternity Hospital to that of the total number registered in the Borough remaining constant.

The admissions in 1927 were more irregular than in the previous year, so that there was no relief from pressure by the slightly diminished numbers.

REPORT ON WORK DONE AT THE ANTE-NATAL CLINIC 1927.

(By Dr. Violet King, Assistant Medical Officer of Health).

The attendances at the ante-natal clinic during the year show an increase of 94 over those in 1926, a welcome sign that patients appreciate their visits, whether in connection with approaching motherhood, or for other reasons.

Some comment on the abnormal conditions found is necessary.

Of the 27 cases of albuminuria, only 3 were severe, but of the larger number, 1 developed eclampsia when the baby was born.

8 inductions were carried out, mainly for contracted pelvis. It is a fact that in this district, at any rate, what appear to be normal pelvic interspinous measurements are considerably below those given as normal in text books.

It is rather a striking feature that as many as 62 patients had definite varicose veins. Of these, 4 were really severe and 12 moderately so.

Most of the mothers are quite adaptable and open to suggestion. They are beginning to believe that it does them more good than harm to have their teeth put right, and only in a few cases has dental treatment been refused.

The results of the Wassermann tests showed one positive.

There is a great need for a few hospital beds definitely at the service of such mothers as need in-patient ante-natal treatment. Up till now they have been taken in for short periods if there happens to be a vacancy, which is hardly ideal. This difficulty will, of course, disappear when the new maternity hospital is available, and until then the work must be carried on as well as circumstances allow.

GYNAECOLOGY.

Thirteen patients attended the ante-natal clinic for gynaecological reasons. Four of these were referred to their own doctors. One became pregnant and will be confined early in the new year.

As there is no woman practitioner in Swindon, this clinic is the only place to which women can come for advice with regard to such conditions as they prefer to discuss with a woman. Treatment is not undertaken; where such is necessary, the patients are sent to their own doctors.

Some of these cases are concerned with post-operative conditions. In most of the others, advice as to general hygiene and conduct during the menstrual period is all that is necessary.

POST-NATAL CLINIC.

During the year 30 mothers who attended the bi-weekly infant clinics at Eastcott Hill, were given advice for a variety of conditions. 10 of these had been in attendance at the ante-natal centre.

As might be expected, the greater number came because of difficulty in feeding their babies, 6 were anaemic and 5 had menstrual irregularities.

V. REDMAN KING,
Asst. Medical Officer of Health.

Public Health Department,
61, Eastcott Hill,
Swindon.

STATISTICS RELATING TO THE ANTE-NATAL CLINIC, 1927.

No. of old cases on the books	....	....	39
No. of new cases	....	....	338
TOTAL			377
Attendances at Doctor's Clinic	....	....	768
Attendances at Matron's Clinic	....	....	460
TOTAL			1228
Urine Examinations	....	....	955
Specimens taken for Wassermann reaction	....	....	3
County cases seen	....	....	58
Sent by own doctor	....	....	10
Sent by midwives	....	....	22
Booked for Confinement in Maternity Hospital			209
District cases	....	....	66
Private cases	....	....	81
Doubtful pregnancy	....	....	8
Gynaecological cases	....	....	13
<i>Conditions found at Clinic :—</i>			
Albuminuria	....	....	27
Contracted Pelvis	....	....	31
Enlarged Thyroid	....	....	4
Heart Disease	....	....	3
Hernia	....	....	4
Mastitis	....	....	3
Prolapse of varying degrees	....	....	8
Pyorrhoea	....	....	7
Referred to Dentist	....	....	10
Spinal Curvature	....	....	2
Varicose Veins	....	....	62
X-rayed	....	....	4
<i>Known Results of Confinements :—</i>			
Normal Deliveries	....	....	220
Of these :—			
Twins	....	....	6
Premature	....	....	11
Induction	....	....	8
Abnormal Cases :—			
Instrumental Cases	....	....	40
Caesarian Section	....	....	4
Breech Presentation	....	....	11
Eclampsia	....	....	2
Still-births	....	....	10

Foetal Abnormalities :—

Spina bifida : mal-development of abdominal wall	1
Hare-lip and cleft palate	2
Hydrocephalus	2
Absence of Rectum	1
Malformed Toes	1

The following table gives the details of confinements of women who had attended the Ante-natal Department, but in whom the child failed to survive.

Age.	Para.	Visits	Comments.	Details of Confinement.
33	7	5	Had varicose veins, mastitis and albuminuria, with slight facial oedema. General condition gradually improved under treatment. Foetus alive 5-4-27. Foetus dead 22-4-27.	Born 29-4-27. 5 weeks premature. Breech.
25	2	2	First confinement easy and normal. Complained now of cramp and dizziness. Brim of pelvis contracted. Examined 22-3-27. Outlines indefinite ; no foetal heart sounds.	Born 27-3-27. 7 weeks premature. Weight 3 lbs. Macerated Hydrocephalus.
23	1	1	Was under doctor for anaemia during first month. Swelling of ankles. Examined 25-3-27. Foetus alive.	Born 13-4-27. 8 weeks premature. No other details.
34	4	1	Other confinements easy and normal. Examined 5-4-27. Breech diagnosed : foetus alive. Appointment made for 3-5-27, not kept.	Born 9-5-27 as a vertex. About 4 weeks premature. Influenza.
24	1	1	Illegitimate baby. Mother had slight swelling of feet. Examined 3-5-27. Foetus alive.	Born 16-6-27. Mother said to have had severe vomiting for 6 weeks beforehand
26	1	5	Had pains in back, and slight albuminuria. Hydramnios. Last examined 22-7-27. Foetus alive.	Born 27-7-27. 7lbs. Alive till very shortly before birth.? Post maturity. Labour induced. Forceps used
36.	3	1	Two previous confinements tedious. Present condition good, save for slight swelling of feet. Pelvic brim contracted. Appointment made for 36th week, not kept.	Born 5-8-27. Ante-partum haemorrhage 11 hours before birth.

Age.	Para.	Visits	Comments.	Details of Confinement.
40	1	2	Varicose veins. Some swelling of ankles. Was to have come into Hospital, but decided to have baby at home. Pelvic outlet contracted. Note sent to doctor with details. Foetus alive 13-9-27. Appointment made for 30-9-27, not kept.	Born 13-10-27. Occipito-posterior. Forceps used.
25	1	2	Condition and measurements normal. Foetus alive 24-6-27. Foetus dead 12-8-27.	Born 15-8-27. Macerated hydrocephalus. Wassermann ++
27	4	2	Diabetes since 1923. Taking insulin. Had coma at 3½ months. Had 1 confinement, normal since onset. All babies large in size. Foetus alive 15-11-27.	Born 3-12-27. Macerated. Uterine inertia.

NEO-NATAL DEATHS IN RELATION TO ANTE-NATAL WORK.

Age.	Para.	Visits	Comments.
38	1	1	Tuberculous disease of hip joint. Contracted pelvis. Irregular menstruation. General health good on the whole. Caesarian section at term. Baby lived 4 days.
36	1	2	Mother had suffered from anaemia. Dysmenorrhoea. Slight varicose veins. Measurements normal. Baby lived 2 days.
30	1	1 8-4-27	Much vomiting during pregnancy. Measurements normal. Baby lived 14 hrs. after transverse delivery.
22	1	2	Pleurisy 1927. Slight swelling of feet. Slight contraction of outlet. Not seen at term. Hydrocephalus. Baby lived 15 mins.
38	4	2	Prolapse since last confinement 8 years before. Operation for it 1925. Haemorrhage in August, 1927. Under own Doctor. Varicose veins and swelling of right leg. No examination as she was due to see her Doctor for that purpose. Subsequently was told to rest in bed. Baby premature: died in 7 hours.
34	1	4	Offensive brown discharge. No movements felt or heart heard at any time. X-ray did not reveal foetus. Last visit 15-3-27. Baby deformed when born: spina bifida; mal-development of abdominal wall, absence of sex organs. Lived 2 mins.
22	1	3	Normal in every way. Baby born asphyxiated. Died in 14 hrs.

PUERPERAL PYREXIA.

There were 16 notifications of puerperal fever and puerperal pyrexia, of which 2 were withdrawn, leaving 14 cases of pyrexia as defined by the Order of 1926.

5 of these cases developed in women delivered in their own homes and were treated throughout at their own homes. 1 occurred in a delivery at home and was transferred for treatment to Gorse Hill Hospital. 1 occurred in Victoria Hospital and was treated there. 2 occurred in the Maternity Hospital and were treated there and 5 occurred in the Maternity Hospital and were transferred to Gorse Hill. All of the cases recovered.

Complete clinical and bacteriological notes of the cases which occurred in the Maternity Hospital or were treated at Gorse Hill Hospital are available.

The figures are reliable, that is, there is every reason to feel assured that no case of pyrexia as defined by the Order was not, in fact, notified. The percentage of deliveries which resulted in pyrexia was, therefore, about 1.5.

MATERNAL MORBIDITY.

Three Swindon mothers died during 1927. One died in the Asylum from puerperal mania, one died from a ruptured ectopic gestation and the other died during an attack of influenzal pneumonia, in which delivery took place during the patient's death.

OPHTHALMIA NEONATORUM.

The number of cases of this disease notified in the Borough during 1927 was 11. Of these, 2 were notified from the Maternity Hospital. 11 cases of discharging eyes in addition to the above, were reported by midwives and 4 cases were seen at the infant clinics, notified neither by doctors nor midwives.

One notified case and one non-notified case were treated privately. The remainder were treated throughout by the Public Health Department.

TREATMENT AT THE CHILD WELFARE CENTRE.

6 notified cases, 5 midwives cases and 4 cases which had not been notified either by a practitioner or by a midwife, were treated throughout in the child welfare department, and 2 other notified cases were treated at first at the Clinic and transferred to Gorse Hill Hospital.

TREATMENT AT THE MATERNITY HOSPITAL.

1 notified case and 5 midwives cases were treated throughout at the Maternity Hospital.

TREATMENT AT THE GORSE HILL V. D. HOSPITAL.

2 Swindon cases transferred from the clinic and 1 Swindon case transferred from the Maternity Hospital were treated at the V.D. Clinic, 2 as in-patients and 1 as an out-patient.

Every Swindon case, both notified and unnotified, recovered completely without any damage to the eyes. In addition to the Swindon cases, 2 County cases were treated as in-patients at Gorse Hill. One of these died, the other recovered.

The bacteriology of these cases is given in the following table :

NOTIFIED CASES—

Gonococcus	....	....	....	4
Gonococcus and Diphtheroids			....	1
Staphylococcus	....	....	....	1
Sterile	....	....	....	3
Not examined	....	....	....	2

NON-NOTIFIED CASES—

Micrococcus catarrhalis	....	....	....	1
Various cocci	....	....	....	2
Cocci and diphtheroids	....	....	....	1
Bacillus Xerosis	....	....	....	2
Bacillus (indefinite)	....	....	....	2
Sterile	....	....	....	3
Not examined	....	....	....	4

It is unnecessary to say much this year about this department of public health work, which for several years has run with perfect efficiency and smoothness. It is impossible for any case developing in a Swindon-born child to escape detection and as the midwives are now fully alive to the dangers of discharging eyes, it is exceptional for a case not to be got under treatment within a few hours of the first symptoms. During the seven years that the present scheme has been in operation, 105 notified and 106 non-notified cases have occurred, all but 13 of which have been treated entirely by the Public Health Department. Not a single case of blindness has occurred and only three cases of permanent damage to the eyes, one only of which was in any way serious, have resulted.

OPHTHALMIA NEONATORUM.

Year	No. Notified.	Cases of infantile Ophthalmia due to gonococcus	Where treated.				Result.				Not notified as O. N.
			Home	Gorse Hill	Clinic	Maternity Hospital	Cured	Blind	Injured	Died.	
*1921	7	?	3	....	4	....	7	....	....	....	19
1922	21	?	2	....	19	....	20	....	1	....	16
1923	34	23	5	4	25	....	30	....	2	2	11
1924	15	13	....	3	10	2	15	....	....	....	12
1925	9	4	1	2	5	1	9	....	....	....	11
1926	8	3	....	....	8	....	8	....	....	....	22
1927	11	5	1	3	6	1	11	....	....	....	15

* These figures are incomplete.

Table showing the number of cases of Ophthalmia Neonatorum notified, the number treated, the results of treatment, and the number of deaths occurring.

No. of Cases notified	11.	No. of Cases	Vision Unimpaired	Vision impaired	Total blindness	Deaths
Treated at Clinic	6	6	....	....	....
Treated at Gorse Hill Clinic	3	3	....	....	....
Treated at Maternity Hospital	1	1	....	....	....
Treated privately	1	1	....	....	....
TOTALS	11	11	....	....	....

INFANT WELFARE CLINICS.

It will be noticed that in spite of the low birth rate of 1927, the number of children attending the clinics and the number of attendances they made increased, and in each case was the highest ever recorded.

A new table has been introduced this year, showing the number of children below school age who received treatment under schemes which, formerly existing only for school children, were last year extended to cover children of all ages. These provisions were only made towards the latter part of the year, so the table is necessarily incomplete.

TABLE SHOWING THE NUMBER OF VISITS PAID BY THE HEALTH VISITORS TO MOTHERS AND CHILDREN AND TO CASES OF TUBERCULOSIS.

	1922	1923	1924	1925	1926	1927
No. of first visits paid to mothers and children	1142	1010	923	922	975	815
No. of revisits	3913	3047	3189	3568	3368	3674
No. of visits paid to expectant mothers	345	214	262	229	166	168
No. of visits paid to cases of Deaths and Stillbirths	93	78	78	67	103	87
No. of visits to cases of Tuberculosis....	109	123	123	366	114	170
No. of visits paid to children aged 1—5 years	2139	2610	3033	3060	2584	3421
	7741	7082	7608	8212	7310	8335

RECORD OF WORK DONE AT THE INFANT WELFARE CENTRES DURING THE YEARS 1921-1927 INCLUSIVE.

	1921	1922	1923	1924	1925	1926	1927
No. of separate Infants who attended the Centre at:—							
Eastcott Hill	1037	1050	1125	1127	1115	1116	1153
Gorse Hill	250	305	272	310	259	305	328
Rodbourne	202	206	208	209	236	255	273
TOTAL	1489	1561	1605	1646	1610	1676	1754
Number of Attendances—							
Eastcott Hill	4971	5073	5698	5521	5742	6079	6173
Gorse Hill	1216	1520	1319	1474	1399	1736	2473
Rodbourne	951	1461	1306	1211	1577	1556	2057
TOTAL	7138	8054	8323	8206	8718	9371	10703
Number of cases which received medical advice and treatment	761	600	580	625	654	746	787
Total Consultations	—	1526	1461	1672	1631	2029	2111

**SUMMARY OF CONDITIONS SEEN AND TREATED AT THE
INFANT WELFARE CLINICS DURING THE YEAR 1927.**

	Infants.	Toddlers.	Total.
Disease and Defects due to Ante-Natal Causes—			
Phimosis	123	3	126
Congenital defects of nervous system....	9	20	29
Congenital diseases of the blood	3	1	4
Other congenital deformities & defects	60	9	69
	195	33	228
Specific Infections—			
Congenital syphilis	9	1	10
Gonorrhoea other than O.N.	—	1	1
Ophthalmia neonatorum	20	2	22
Tuberculosis	5	2	7
Diphtheria, scarlet fever, measles, whooping cough	4	2	6
Pneumonia	14	3	17
Rheumatism	—	1	1
Nervous system	5	6	11
Various infections	73	9	82
	130	27	157
Deficiency States—			
Ill-feeding	138	8	146
Scurvy	1	—	1
Rickets	19	7	26
Anaphylaxis	4	3	7
Various	11	12	23
	173	30	203
Injuries	4	6	10
Miscellaneous	138	51	189
	640	147	787
In Bacteriological examinations	50	10	60
In Haematological examinations	9	7	16
In X'Rays examinations	5	3	8
No. of Mental Defectives	4	6	10
No. of Physical Defectives.	1	2	3
No. of Blind Children	1	—	1
No. of Deaf Children	—	—	—
No. of Mute Children	—	—	—

TABLE SHOWING THE NUMBER OF INFANTS AND TODDLERS REFERRED TO SPECIAL DEPARTMENTS FOR TREATMENT DURING 1927.

	Infants	Toddlers	Total.
Dental Clinic	10	27	37
Eye Clinic	7	10	17
V.D. Clinic	13	8	21
Orthopaedic Clinic	7	5	12
Throat, Nose and Ear Clinic	1	8	9
Electrical Clinic	10	1	11
TOTAL	48	59	107

THE MILK (MOTHERS AND CHILDREN) ORDER.

	1921	1922	1923	1924	1925	1926	1927
No. of applications granted	60	88	54	61	52	106	77
Total quantity of Milk issued (Galls.)	1800	900	750	900	900	1750	1497
TOTAL COST	250	100	75	90	90	160	140

INFANTILE MORTALITY.

The death of every person under the age of 17 which occurs in Swindon, or of any Swindon child who dies away from the town, is investigated. Some knowledge of the previous history of these children is in the possession of the Health Office and in an increasing number the full life histories are available. Since some children die in the institutions of Swindon who do not belong to the town and certain other children who have regularly attended the Swindon clinics die elsewhere, these investigations become somewhat complicated. In the review which follows, cognizance is only taken of those deaths which the Registrar General accredits to Swindon.

The prevention of death must be founded on an accurate knowledge of the factors which lead to it, and such knowledge can only be obtained by the scrutiny of the life histories of those who have failed. The certificate of death tells us little, though the alteration of death certification which came into force last year, clears the ground so that practitioners who attend at death are not handicapped as they have been heretofore. We may therefore take it that in future the certificate will be as accurate as the person signing it can make it. Exhaustive inquiry into death certification reveals that, generally, accuracy falls below forty per cent., and in children, young infants especially, the accuracy is very much less than this. Indeed, in children, for research purposes, the death certificate is of no value except for the proof of the fact of death. The reason for this is neither slackness nor lack of knowledge of the practitioners of medicine, but that they are called upon to do what is impossible.

The majority of deaths of young infants are certified as being due to bronchitis, diarrhoea, premature birth, or similar phrases, which tell us no more than that a certain symptom was more prominent than others during the last day or so of life. The practitioner is rarely called in to see an infant under circumstances in which a diagnosis is possible, but if deaths are inquired into with all the information at hand, particularly if there is a written record of the child's life history, it is possible in many cases to form an accurate opinion upon the pathological process which ended fatally.

Resulting from the knowledge of infantile death which has been gained from inquiry, an enormous reduction in infantile mortality has been achieved. In Swindon, almost every year has been an improvement on its predecessor. 1926 showed a sensational drop in infant deaths from those of the preceding year, and 1927 gives a record which, until recent years, we would have looked upon as impossible. Yet we must not blind ourselves to the fact that things are still far from what they should be, and that though the infants we lose are less than 40% of what we were losing at the beginning of the century, the majority which are lost were savable, and would have been saved if the knowledge which we already possess had been utilized. Infant welfare now exists in practically every country of the world. In every country from the poles to the equator, in those which consider themselves highly civilized and in most of those which are still almost savage, the infant clinic has been established and from every part of the globe comes the same story; that the establishment of an infant clinic immediately and enormously reduces mortality. The finest and most complicated system for dealing with disease, the assurance that everybody when diseased can obtain the best possible

medical treatment that the world can give, exercises comparatively little influence upon the mortality curves; whereas the crudest method for supervision of the population always produces an influence which is immediate and progressive. Nor is this to be wondered at. The prevention of disease, the turning aside of those agents which act unfavourably; the recognition of the first traces of physiological difficulty and their remedy, is work that mankind can do and do with precision and with the certainty of success. The cure of what the public call disease, the return to the normal of an organism which is wrecked, can only exceptionally be expected to succeed and not all the skill, knowledge and expenditure of mankind can ever hope to make the position very different.

STILLBIRTHS.

38 stillbirths occurred in Swindon in 1927; of these, 4 did not belong to the borough, leaving 34 accredited to Swindon, the same number as last year. 7 of these occurred in the Maternity Hospital. Of the 34 Swindon cases, 23 were males and 11 females. 2 were illegitimate and 32 legitimate. 10 were first pregnancies, 3 second, 3 third, 6 fourth, 3 fifth, 1 sixth, 4 seventh, 1 ninth, 1 tenth, 1 eleventh and 1 unknown. 22 were full time and 12 premature, 4 of the eighth month, 7 of the seventh month and 1 of the sixth month.

The causes of stillbirth were, so far as can be ascertained, as follows:—

FOETAL CAUSES :—

Hydramnios	1
Congenital Syphilis	1

NATAL CAUSES :—

Abnormal presentation	6
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MATERNAL CAUSES :—

Influenza	2
Diabetes	1
Eclampsia	1
Ante-partum haemorrhage	2

The causes of the remainder are unknown.

DEATHS BEFORE THE END OF THE FIRST DAY.

7 such cases occurred, against 12 for last year. All were legitimate. 4 were males and 3 females. 4 were first pregnancies and 3 subsequent pregnancies. 1 was a non-viable monstrosity; 1 died from laceration during delivery; 1 was a premature infant born from a case of placenta praevia and was practically non-viable. The other 4 were premature, but the actual cause of death is uncertain.

DEATHS BETWEEN THE END OF THE FIRST DAY AND THE END OF THE FIRST WEEK.

10 such deaths occurred, against 5 for last year. 7 were males and 3 females. 4 were first pregnancies and the remainder subsequent pregnancies. All were legitimate. 1 was born from a mother dead from influenzal pneumonia, the infant surviving two days ; 2 were premature twins weighing respectively 2lbs. and 4lbs. ; 1 was a premature weighing $3\frac{3}{4}$ lbs. ; 2 were early pre-matures ; 1 was a transverse presentation in which the child had probably been damaged in delivery ; 1 was delivered from a deformed tuberculous mother ; 1 is said to have had a congenital heart, on extremely doubtful evidence, and 1 died of haematemesis of unknown causation.

DEATHS BETWEEN THE END OF THE FIRST WEEK AND THE END OF THE FIRST MONTH.

4 such deaths occurred, against 6 for last year. All were males and all were legitimate. 2 were first pregnancies and 2 subsequent pregnancies. 2 were breast fed, who died respectively of aundice and marasmus ; they were both probably congenital syphilis. 2 were artificially fed ; 1 of these had spina bifida, but both most certainly died from illfeeding.

DEATHS BETWEEN THE END OF THE FIRST MONTH AND THE END OF THE FIRST YEAR.

18 such deaths occurred, against 24 in 1926. 12 were males and 6 females. 3 were illegitimate. 6 cases had not attended the clinic,s and their previous history was unknown. 2 of these had been breast fed ; 1 died from pneumonia and 1, certified as bronchitis died from acute mastoid disease. 4 had been artificially fed ; 2 of these were certified as dying from bronchitis, 1 from gastritis and 1 from mitral disease, but the evidence is conclusive that all these 4 died from improper feeding.

Of the 12 cases which had attended the clinics and whose life histories were known completely, 2 were breast fed. Of these, 1 died from bronchitis and convulsions and was living in a household where there were two cases of very active tuberculosis ; the other died of whooping cough. Of the 10 that were artificially fed, 1 certified as marasmus died of congenital syphilis ; 1 died of influenzal pneumonia ; 2 died of tracheal diphtheria, 1 of whooping cough, 1 from shock following operation for naevus ; 1 from broncho pneumonia (this was a case that had suffered from opththalmia neonatorum due to the pneumococcus) ; 1 was certified as having died from congenital heart disease, but there was no evidence

of this, the cause of death being illfeeding ; the remaining 2 also died of illfeeding.

DEATHS OF CHILDREN BETWEEN THE FIRST AND SECOND YEAR.

There were 8 such deaths, against 12 for last year, 4 males and 4 females. All were legitimate. 4 of these did not attend the clinic, 2 of which were breast fed and died respectively of diarrhoea of unknown causation and accidental poisoning. 2 were artificially fed and died of illfeeding.

Of the 4 cases which attended the clinic, 1 was artificially fed and died from illfeeding, though its death was certified as being due to broncho pneumonia. Of the 3 that were breast fed, 1 died of tuberculous meningitis, 1 of whooping cough and 1 of convulsions, which very probably was whooping cough.

DEATHS OF CHILDREN BETWEEN THE SECOND AND FIFTH YEAR.

There were 5 such deaths, against 10 for last year, 3 males and 2 females. 2 cases had not attended the clinic and were both breast fed. 1 died of pneumonia and 1 of influenza.

Of the 3 cases that had attended the clinic, 2 were breast fed and died of rickets and intussusception respectively. 1 was artificially fed and died from illfeeding. This death was certified as being due to tuberculosis, but there was no clinical evidence of tubercle.

DEATHS OF CHILDREN BETWEEN THE FIFTH AND THE TENTH YEAR.

There were 6 such deaths, 3 males and 3 females, against 17 last year. 1 died from pyaemia following diphtheria ; 1 of tuberculosis ; 1 of pneumonia ; 1 of fractured skull, 1 of sarcoma of the belly and 1 who died away from Swindon is reported to have died of broncho pneumonia.

DEATHS OF CHILDREN BETWEEN THE TENTH AND THE SEVENTEENTH YEAR.

There were 7 such deaths, against 12 for last year, 2 males and 5 females. 1 died of sarcoma ; 1 of paratyphoid fever ; 1 of rheumatic heart disease ; 3 of tuberculosis and 1 of acute bronchitis, the last being a catarrhal child who had been under observation all his life.

The child deaths for 1927 were therefore 65, against 94 and 103 in the two preceding years. In every direction this result is the most favourable that has ever been attained. An analysis of these cases brings out a fact which now rests upon such abundant evidence that it never can be disputed, that artificial feeding causes more death in early life than all other causes put together. Apart from artificial feeding there still remain some diseases which kill children which, though theoretically preventable, are not prevented. Of these, tuberculosis stands first, diphtheria second, pneumonia third and rheumatism fourth.

The unpreventable causes of death during infancy seem to be but two, accidental injury and sarcoma.

The deaths which occur within the first month of life and the still-births are, in the main, due to conditions more relative to the mother than to the child. The growth of ante-natal clinics, which are now proceeding on much the same lines as the infant clinics, offers the probability of our being able to do the same for the unborn child as we do for the child when he is separated from his mother. But in this department we are still feeling our way, so that, up to the present, no such reduction in natal deaths has been achieved as in the deaths of children in the later months of infancy.

TABLE SHOWING THE CAUSES OF DEATHS OF CHILDREN UNDER
17 YEARS OF AGE IN THE BOROUGH OF SWINDON DURING THE
YEAR 1927.

CAUSE.	0-1	1-2	2-5	5-10	10-17	Total
<i>Pathologically Differentiated—</i>						
Congenital Defects	2	....	....	....	....	2
Congenital syphilis	3	....	....	....	....	3
Influenza	2	....	1	....	....	3
Whooping cough	2	2	....	....	....	4
Pneumonia	2	....	1	2	....	5
Diphtheria	2	....	....	1	....	3
Tuberculosis	....	1	....	1	3	5
Paratyphoid	....	....	....	....	1	1
Rheumatic Infection & Sequelae	....	....	....	....	1	1
Rickets	....	....	1	....	....	1
Septic Meningitis (ear)	1	....	....	....	....	1
Intussusception	....	....	1	....	....	1
Sarcoma	....	....	....	1	1	2
Injury during delivery	2	....	....	....	....	2
Shock following operation	1	....	....	....	....	1
Injury	....	....	....	1	....	1
Accidental Poisoning	....	1	....	....	....	1
<i>Undifferentiated—</i>						
Prematurity	10	....	....	....	....	10
Illfeeding	9	3	1	....	....	13
Haematemesis	1	....	....	....	....	1
Diarrhoea	....	1	....	....	....	1
Bronchitis	1	....	....	....	1	2
Unknown	1	....	....	....	....	1
TOTALS	39	8	5	6	7	65

NOTE.—The death of every child under the age of 17 years is made the subject of enquiry, in which all matters connected with the medical history of the child are considered, and from the available evidence the conclusion is drawn as to what was the main factor which destroyed life. In the above table the deaths are given in accordance with these findings, so that they do not necessarily correspond with the official records.

INFECTION AND EPIDEMIOLOGY.

EPIDEMIOLOGY OF SWINDON DURING 1927.

The year opened quietly. Beyond a trifling amount of whooping cough, there had been no prevalence of infection of any importance during the closing weeks of 1926 and nothing to indicate the approach of anything exceptional. Towards the end of the first week in January, diarrhoea and digestive disturbances of minor severity became prevalent amongst toddlers and later amongst adults. Diphtheria of a somewhat severe type, and scarlet fever were present in epidemic form in the surrounding districts, but had not spread to the Borough. Poliomyelitis and encephalitis were appearing sporadically in the neighbouring parts of the County, and small pox was working its way South.

In the second week of January a rapid increase of the notifications of pneumonia gave notice of some impending trouble and on the fifteenth this crystallized abruptly into an epidemic of Influenza. The march of this visitation was extremely rapid, and by the twenty-fourth the situation appeared so threatening that special administrative measures were called for to deal with it. From that day it declined and the epidemic ceased on February the fifteenth. Its collapse was as rapid as its rise and it left nothing behind it save a tendency towards miscarriages and a depression of the reproductive functions which could be traced up to the end of the year. The visitation was severe as regards numbers, over six thousand citizens were brought to bed and many more might with advantage to their own health and to that of their neighbours, have gone to bed also, had not the exigences of business forced them to keep going. About one third of the inhabitants of the borough suffered more or less severely during the thirty-one days that the epidemic lasted. But its fatality was slight and unlike former visitations, it left few legacies. Yet though the case fatality was low (under 0.25%), its high prevalence materially influenced the death returns; during the epidemic period 56 deaths attributable in whole or in part to influenza occurred in the Borough. Of these, 5 were not natives of Swindon and 17 were in persons over 70 years of age. But when every allowance is made there remain 25 deaths due solely to influenza and this number, 25, may be considered the debt in life which was paid for the visitation. These deaths were due in nearly equal proportion to toxic and to pneumonic forms. Though it would seem that the setting of the epidemic was in diarrhoeal and alimentary conditions, the constitution of the epidemic itself was exclusively respiratory, for apart from toxæmia, all complications were pneumonic. One extraordinary feature of the epidemic was the large number of children attacked by influenza who at the time were suffering from whooping cough. These promptly developed broncho-pneumonia. The pneumonia and whooping cough cleared up

together in a few days. The mortality amongst this class was quite trivial.

After this storm came a prolonged calm. March, April, May passed without any matter for comment. In June, after a period of warm dry weather, pneumonia in the epidemic form, not uncommon in dry springs, put in an appearance and gave rise to some anxiety. The pneumonias during this period had clinical features similar to those which characterised the pneumonias of the summers of 1899 and 1911, and like those had a comparatively low fatality. It soon died out.

A fatal case of paratyphoid fever occurred in a school child and was considered to have been due to drinking water from a polluted well. The evidence of this source of infection is suggestive only, for bacteriological and serological examinations threw no light on its origin. But it is a fact worth noting that most cases of paratyphoid which have occurred in the Borough during the past five years have in some way been connected with a few old wells in the upper part of Old Town. These wells gather water from a boggy stratum which cuts across the hill upon which Old Swindon was built. Most of these wells have now been closed. Paratyphoid fever has been uncommon in Swindon, only six cases having occurred in the last 5 years, but its fatality was severe, 66.6%. The occurrence of this isolated case would not at first sight appear to be of any great public health importance, but the subsequent history of the year rendered it worthy of note.

The early summer was healthy. Towards the middle of August, five cases of pneumonia were admitted into Gorse Hill Hospital, 2 from the Borough and 3 from its environs, which gave rise to no little speculation as to their nature and considerable anxiety, as to their meaning. All were rapidly fatal. The possibility of their being pneumonic plague was considered and excluded, but unfortunately the rapidity of their course prevented such exhaustive bacteriological investigation as was desirable, and it was only possible to decide that they were pneumococcal infections, either pure or imposed upon infections which were not bacillary in origin. Subsequently the mother of one of these cases developed paratyphoid fever and died from it. The brother-in-law of another developed cerebro-spinal meningitis. He recovered. His wife, sister of a fatal case of pneumonia, had been visiting her brother during his fatal illness. When her husband developed cerebro-spinal fever, she was a carrier of meningococcus. Her brother was the only one of the batch of fatal pneumonias who did not have cerebral disturbance. A case of typhoid (typhosis) occurred just without the borough boundary and several

cases of obscure diarrhoea and fever occurred in the Borough, chiefly amongst adults. Two adults died of 'diarrhoea' during the late summer. Nothing is known of the epidemic significance of these cases, for no bacteriological evidence is available; but a few of those affected with obscure diarrhoea were young children, whose blood was submitted to serological tests. Unfortunately these stopped short at excluding the typhoids and the dysenteries. Diarrhoeal conditions continued to be prevalent during the autumn up to November, amongst adults and older children. Infants and toddlers escaped.

In the first week of October occurred an outbreak of food poisoning, limited to one household and proved to be caused by the Reading bacillus. An epidemic of mumps started in the early winter, but with this exception, the health of the Borough was excellent during the last two months of the year. In no part of the year was the borough troubled to any extent by measles, whooping cough, scarlet fever or diphtheria, though all these diseases were present from time to time in the surrounding districts. From the epidemic diseases of the nervous system, apart from the case of cerebro-spinal fever already mentioned, the town was entirely free.

PNEUMONIA.

The notification of pneumonia is the first essential of temperate epidemiology, for in cold climates the pneumonias dominate the whole situation and with few exceptions, give the first evidence of approaching trouble. The law only requires influenzal and primary pneumonia to be notified, but fortunately it is not possible to decide without somewhat elaborate tests whether pneumonia is primary or secondary (if indeed either term means anything); so that the pneumonia complications or forerunners of epidemic diseases are in fact notified. So long as the medical officer of health can rely upon his register of pneumonia notifications, he can rest assured of not being caught unawares by epidemics of a dangerous or unusual character. In England and Wales, pneumonia kills rather more than five times as many as all other epidemic diseases put together, in most infections it is the chief and in many it is the only, danger to life. Its importance is now being recognised and the Ministry of Health has very wisely put this disease in the foreground and urged that it should occupy a first place in the attention of sanitary authorities. In Swindon the paramount importance of dealing with pneumonia was recognised several years ago, and for the last few years, the local fever hospital, which is excellently equipped for the purpose, has looked upon pneumonia as having the first indisputable claim upon its accommodation. This policy has had a greater influence over the health

of Swindon than any other measure except child welfare.

During the year, 202 cases of pneumonia were notified, of these 58 died. 63 were removed to hospital, of whom 14 died (22.2%) and 139 were treated at home, of whom 44 died (31.6%). A table of the statistics for pneumonia appears overleaf. These figures call for exhaustive scientific scrutiny. So far as the cases treated in hospital are concerned this will be done in the Annual Report of the Hospital Board, but of the cases treated at home the information available is too fragmentary to repay analysis.

There is an apparent discrepancy between the deaths from pneumonia as given here and those given by the Registrar General. The Registrar General only includes under pneumonia, deaths from primary pneumonia, the deaths from pneumonia occurring in the course of influenza or whooping cough, etc. being attributed to the primary disease.

THE PNEUMONIAS.

The statistics for pneumonia for the past seven years are as follows:—

Year.	Total No. of cases notified.	Total No. of deaths.	Cases removed to Hospital.			Cases treated at Home.		
			No.	Deaths	Death Rate	No.	Deaths	Death Rate
1921	36	19	....	....	....	36	19	52
1922	156	43	1	0	0	155	43	27
1923	68	28	12	0	0	56	28	50
1924	175	62	31	5	16	144	57	46
1925	204	61	50	10	20	154	51	33
1926	172	52	27	6	22	145	46	32
1927	202	58	63	14	22	139	44	31
7 years	1013	323	184	35	19.02	829	288	34.7

SCARLET FEVER.

59 notifications of scarlet fever were received, of which all but one were removed to hospital. In eight cases the provisional diagnosis was faulty so that the number of genuine cases was 51. All recovered. Though scarlet fever was insignificant in the borough, it was unusually prevalent in the surrounding County. Most of the town cases were traced to outside sources or to the activities of two known carriers who live in the town.

DIPHTHERIA.

Diphtheria was even less prevalent. There were 32 notifications, but of these no less than 14 subsequently proved to be some other disease, so the number of true cases was only 18. All but one, which died at home from croup, were treated in hospital. There were three deaths, two from croup and one from pyaemia. In the latter fatality the diphtheria was only remotely concerned. No known diphtheria carrier exists in Swindon at present.

9 cases of erysipelas, 2 of paratyphoid, 1 of cerebro-spinal meningitis and 2 of malaria of tropical origin complete the list of notifiable diseases apart from ophthalmia neonatorum and puerperal pyrexia which are dealt with under maternity and child welfare.

TUBERCULOSIS.

The position as regards tuberculosis in Swindon during 1927 was not satisfactory, both the attack rate and the death rate increasing, the latter by nearly 30 per cent. The tuberculosis death rate for 1927 was 960 per million, which is exactly the standard figure for England and Wales.

The control of tuberculosis rests with the County Council, but part of its administration is a Borough function. Though in this connection the Borough and the County act in perfect harmony, it is almost impossible for the officers of either authority to obtain a complete grasp of the state of tuberculosis in the district, or to explain any alterations in its incidence or fatality.

CANCER.

The deaths from cancer were lower than they were for last year, being 72 against 75. This gives the lowest cancer death rate for the past five years. In fact it would seem that, contrary to the general trend, cancer in Swindon is decreasing, or rather deaths from that disease are decreasing.

DIABETES.

Only 2 deaths from diabetes occurred in Swindon during 1927, against 7 in 1926, which figure is about the average for some years past. Provision is now made in Swindon for treatment of diabetes cases in the Victoria Hospital and there is reason to think that this provision is definitely the cause of its decreased fatality.

VITAL STATISTICS.

830 births were accredited to the town for 1927, against 980 for the year before, giving a birth rate of 14.52, which is over 2.5 down on the previous year. The birth rate in Swindon had remained somewhat stationary since the fluctuations due to the war, and this remarkable drop during 1927 gives rise to much speculation. It has already been suggested that the influenza epidemic may be responsible for the fall in births, but the conditions of migration also require consideration. The normal increase in the population, that is, the excess of births over deaths, for 1927 should have increased the population by 192, but the Registrar General, who estimates the populations upon all factors within his knowledge, gives Swindon a decreased population of 170. This means that there is a tendency for the population to emigrate from the Borough. No doubt part of this is due to the fact that the Corporation Housing Estate is without the boundary and naturally the most fertile part of the population will be accommodated in the Corporation's houses as they are available. The building within the Borough has been mainly of the nature of residential suburbs, causing immigration into the Borough to be of a less fertile class than that which emigrates. Swindon, as bounded by the municipal boundary, has, however, become an artificial unit. The extension which was sought and granted will restore Swindon as a natural unit and in future years we shall be able to judge more accurately the extent, variation and distribution of its population.

RATES PER 1,000 POPULATION.

Scarlet fever attack rate	....	....	0.89
Scarlet fever death rate	....	....	.00
Diphtheria attack rate	....	....	.31
Diphtheria death rate	....	....	.05
Pneumonia attack rate	....	....	3.53
Pneumonia death rate	....	....	.45
Tuberculosis attack rate	....	....	1.78
Tuberculosis death rate	....	....	.96
Cancer death rate	....	....	1.25

CONCLUSION.

The work of the Public Health Department is divided broadly into three sections, sanitation, disease prevention and curative treatment. This division is by no means clearly marked, for sanitation is part of prevention and preventive and curative treatment are inseparable, the cure of minor conditions preventing the more serious. Thus, dentistry is the cure of caries and part of the prevention of insanity and gastric ulcer. But this division into three sections is convenient, if for no other reason than to impress that it is the centre, disease prevention which is the sole object of all public health activities and the ultimate aim of that section of biology which relates to the human species. Curative medicine is a side issue of public health, rather than an integral function, and in ideal conditions (if indeed the necessity for cure could still exist if things were ideal) the only interest which the health office would have in it would be to see that it is done. But at present it is convenient for the health department to accept, in part at all events, the curative treatment of certain conditions not otherwise accommodated. Experience in the cost and essentially unsatisfactory nature of curative medicine is of immense value to the health officer, in developing his knowledge of vital actions and for understanding the nature and possibilities of prevention.

It is, on the whole, most salutary to base health administration upon a financial basis. Not that even the most avaricious or most callous amongst us does not recognise that there is somewhat more than money involved in questions of health, life and happiness ; but because money is the only thing which has a standard value, equally estimated by all, and is the only foundation upon which we can cast a balance sheet.

We cannot, it is true, draw up a profit and loss account of public health in quite the same way as we can that of a commercial undertaking. But, if we can fix upon a monetary equivalent of life, we could make some approach to such a detailed and accurate statement ; and as the dividends from such health provisions as are sound, are infinitely greater than any that could be achieved by the most prosperous barter in commodities, we can allow as low a value for citizens as will suit the most niggardly. This value is the difference in cash between what the average citizen pays in rates and taxes and the cash cost of the personal services he receives in return. This value depends upon the mental and moral capacities of the citizen, his education and his health. It is the last only that concerns us. The expenditure upon general sanitation can in part only be considered as justly chargeable to health, for improvements in housing, drainage, etc., confer benefits other than those of health ; but the expenditure upon pure preventive and curative machinery is entirely chargeable to the health account,

and form the Dr. column of the balance sheet. When we analyse the various items of expenditure and balance them against each other, we find that prevention does much and costs little, whereas curative work costs much and achieves little.

An example, somewhat favourable and unusually simple to express, is furnished by ophthalmia neonatorum. Prior to 1921 this disease produced in Swindon most of our blind children. The cost to the community of a blind child for special education, etc., may be about £1,000. In 1921 a scheme for the prevention of blindness from ophthalmia was put into operation.† During the seven years it has been working not a single child has become blind from ophthalmia. The cost is about £7 per annum. This is exceptionally favourable. In 1920, enlargement of the thyroid gland was one of the main causes of unemployment amongst girls in Swindon. The attention of the School Medical Officer was called to this condition, upon the count of unemployment alone. A scheme of prevention was instituted and Swindon is no longer a goitrous district; the number of cases which do occur has sunk to an insignificant figure and unemployment from this cause has ceased to trouble us. This example is less good than the former, because it cannot be said for certain that the action taken was the whole or even one of the chief causes of the remarkable improvement. The cost of the scheme is roughly £18 per annum. The treatment of a case of severe rickets costs the community about £150. For this sum, a useless citizen may be converted into one of some value, but the prevention of 150 cases of rickets can be achieved for far less than this. Such examples might be multiplied indefinitely. The expense of the prevention of disease is indeed infinitesimal* when such knowledge has been obtained as to render a preventive campaign feasible; but such knowledge is not come by without expenditure. For knowledge can only be obtained from research, and research is costly. Truth cannot be commanded and cannot always be found when she is sought. But she can never be found without seeking, and the search has to be paid for. The prevention of disease rests upon our knowledge of the causes which force biological processes outside the sphere of their normal variations and their capacity for adaptation. These causes are in general highly complex combinations, owing their power not only to their nature but to their timing and co-operation. The prevention of their action depends upon upsetting the completion of the circle, which, not until it is complete, and only whilst it is complete, can exert its evil function. So far

†By the Order of 1926, this provision is made compulsory on all local authorities.

*The total net cost of the whole Maternity and Child Welfare Department, including the Maternity Hospital, for the last financial year was £2032, of which £970 was paid from the Imperial Exchequer and £1062 was met out of the rates, representing a $\frac{3}{4}$ d. rate.

as we know, the phenomena of disease can only be produced by the interaction of organic beings upon each other, so that the basis of all disease would appear to be infection. But it must not be supposed that infection of itself is necessarily followed by disease. It is indeed far otherwise. Disease is an incident of infection, an unusual and temporary phase in the evolution of symbiosis, or the function of organised beings to live in harmony. This is fortunate for us. Were infection inevitably followed by disease, existence would be impossible, for within ten minutes of birth, all of us are heavily infected with a vast number of parasites and every day we live we encounter more.

To prevent disease we need not know the whole gamut of its causation; if one single factor which is essential, is known and that factor can either be eliminated or even turned aside temporarily, prevention becomes possible. Thus death from measles can be prevented by delaying infection for five years and tuberculosis can be prevented by delaying the first infection, diminishing the intensity of the dosage or altering its path of entrance.

The health of the future generations of mankind lies mainly with man himself. If he is prepared to profit by the fruits of his intelligence and his industry, to seek the truth and to accept it; if he is willing to deal to himself the same measure which he gives to his engines, his wireless apparatus or to the lighting of his streets, he can succeed in improving his health as he does improve his locomotion and his conveniences. But if he continues to neglect the teachings of science because they seem unexpected or unaccountable, if he continues to grovel beneath the crushing burden of superstition and of ignorance, of deception, and of the selfish interests of those who feed on his suffering, there is nothing better before him than there was in the past—a life maintained more by luck than by management, health kept precariously and only kept at all because his mechanism is to some extent fool-proof.

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BOROUGH OF SWINDON.

GENERAL STATISTICS.

Area (Acres)	4265	
Population (1927)	57150	
Number of inhabited houses (1927)	....			14374	
Number of families or separate occupiers (1927)					(Figure not available).
Rateable Value (General District Rate)				£318,142	
Sum represented by a penny rate	....			£1,302	

EXTRACTS FROM VITAL STATISTICS OF THE YEAR.

		Total	M.	F.	
Births	Legitimate	.... 802	402	400	
	Illegitimate	.... 28	15	13	Birth Rate 14.52
Deaths	....	.... 638	315	323	Death Rate 11.16
Number of women dying in, or in consequence of childbirth			{ From sepsis		—
			{ From other causes		1
Deaths of Infants under one year of age per 1,000 births :—					
Legitimate 44.88		Illegitimate 107.14	Total 46.98		
Number of deaths from Measles (all ages)			....	....	—
„	„	„ Whooping Cough (all ages)			2
„	„	„ Diarrhoea (under 2 years of age)			2

TABLE showing the numbers of Infectious Diseases notified in the Borough during the year 1927.

Disease.	Cases notified at various ages. (Years).										Total cases notified	No. of cases admitted to Hospital	Total Deaths
	Under 1	1-2	2-3	3-4	4-5	5-10	10-15	15-20	20-35	35-45	45-65	65 & upwards	
Diphtheria	1	1	1	1	1	8	3	—	2	—	—	—	18
Erysipelas	—	—	—	—	—	—	2	—	—	1	5	1	9
Scarlet Fever	—	—	3	—	7	24	12	4	1	—	—	—	51
Ophthalmia Neonatorum	11	—	—	—	—	—	—	—	—	—	—	—	11
Dysentery	—	—	—	—	—	1	—	—	—	—	—	—	1
Pneumonia	14	15	11	9	8	19	7	11	24	17	44	23	202
Enteric Fever	—	—	—	—	—	—	1	—	—	—	1	—	2
Continued Fever	—	—	—	—	—	—	—	—	—	—	—	—	—
Encephalitis Lethargica	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal Pyrexia	—	—	—	—	—	—	—	2	9	2	—	—	13
Puerperal Fever	—	—	—	—	—	—	—	—	—	1	—	—	1
Poliomyelitis	—	—	—	—	—	—	—	—	—	—	—	—	—
Cerebro-spinal Meningitis	—	—	—	—	—	—	—	—	—	—	1	—	—
Polio-encephalitis	—	—	—	—	—	—	—	—	—	—	—	—	—
Malaria	—	—	—	—	—	—	—	—	1	—	—	—	—
Tuberculosis—	—	—	—	—	—	—	—	—	—	—	—	—	—
(a) Pulmonary M.	—	—	—	1	1	—	3	6	11	5	8	—	35
F.	—	—	—	—	—	—	2	4	17	6	4	—	35
TOTAL	—	—	—	—	—	—	—	—	—	—	—	—	70
(b) Non-Pulmonary M.	—	—	2	1	—	4	1	2	3	1	2	—	16
F.	—	—	2	—	1	2	3	2	3	1	1	—	16
TOTAL	—	—	—	—	—	—	—	—	—	—	—	—	32
TOTALS	26	16	19	12	18	58	34	31	71	35	66	27	413
	....											142	117

*One death certified as due to Acute Anaemia.

†The Registrar General accredits Swindon with one more male death from non-pulmonary tuberculosis. It is possible that this death occurred outside the Borough and has not yet been finally assigned.

TABLE SHOWING MONTHLY INCIDENCE OF INFECTIOUS DISEASES AND THE NUMBER OF DEATHS DURING 1927.

Disease.	No. of Cases.												Total	No. of deaths.
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.		
Diphtheria	2	2	—	2	1	—	1	1	—	2	1	6	18	3
Erysipelas	2	—	1	3	—	1	1	1	—	—	—	—	9	—
Scarlet Fever	—	1	6	4	7	—	4	4	5	12	6	2	51	—
Ophthalmia Neonatorum	2	—	1	1	1	1	—	—	2	1	1	1	11	—
Dysentery	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Pneumonia	61	35	13	10	9	10	12	11	6	13	8	14	202	58
Enteric Fever	—	—	—	—	1	—	—	—	1	—	—	—	2	2*
Encephalitis Lethargica	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal Pyrexia	1	1	1	—	—	3	3	—	—	2	2	—	13	—
Puerperal Fever	—	—	—	—	—	1	—	—	—	—	—	—	1	—
Polio-myelitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Polio-encephalitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cerebro-spinal Meningitis	—	—	—	—	—	—	—	—	1	—	—	—	1	—
Malaria	—	—	—	—	—	—	—	—	2	—	—	—	2	—
Continued Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTALS	68	39	22	20	19	16	21	17	17	30	18	24	311	63

* One Death certified as due to Acute Anaemia.

TUBERCULOSIS 1927.

Age Periods.	NEW CASES.				DEATHS.			
	Pulmonary		Non-Pulm'ry		Pulmonary		Non-Pulm'ry	
	M	F	M	F	M	F	M	F
Under 1 year ....	....	....	....	....	....	....	....	....
1—5	2	....	3	3	1	....	1	....
5—10 ....	....	....	4	2	....	....	1	....
10—15	3	2	1	3	....	1	....	....
15—20	6	4	2	2	3	....	....	1
20—25	3	7	....	1	5	2	1	....
25—35	8	10	3	2	5	6	....	1
35—45	5	6	1	1	3	5	1	....
45—55	3	3	1	1	5	1	2	....
55—65	5	1	1	....	6	1	1	....
65 and over ....	....	2	....	1	....	1	....	....
TOTALS	35	35	16	16	28	17	7	2

NOTE.—The Registrar General accredits Swindon with one more male death from non-pulmonary tuberculosis. It is possible that this death occurred outside the Borough and has not yet been finally assigned.

DEATHS FROM TUBERCULOSIS, 1927.
TABLE SHEWING WHEN CASES WERE NOTIFIED.

When Notified.	Pulmonary		Non-Pulmonary	
	Males	Females	Males	Females
One year or more before death	9	5	1	....
Less than one year and more than 6 months before death	3	2	1	....
Less than six months and more than two months before death	6	2	....	....
Less than two months before death	2	3	1	1
At or immediately before death	4	2	4	1
Unnotified. (Cases who died outside the Borough and never notified to Swindon.)	4	3	....	....
TOTALS	28	17	7	2

Comparative statement showing the number of notifications received of the various forms of Tuberculosis and the Death Rates resulting from each form of the disease for the years 1914-1927.

	1927	1926	1925	1924	1923	1922	1921	1920	1919	1918	1917	1916	1915	1914
No. of cases notified (all forms)	102	94	91	111	117	103	98	97	73	116	129	132	140	160
Respiratory Tuberculosis	70	56	66	75	75	68	63	72	51	86	102	95	86	101
Deaths from Respiratory Tuberculosis	45	30	42	42	48	59	42	55	44	66	60	48	51	53
Deaths from Tuber. Meningitis	1	8	5	4	12	6	11	8	8	11	8	10	10	3
Deaths from other forms of the disease	9	3	4	7	7	6	12	6	8	11	10	10	8	1
Total deaths from Tuberculosis	55	41	51	53	67	71	65	69	60	88	78	68	69	57
General Death Rate for all forms of Tuberculosis	0.96	0.71	0.89	0.93	1.19	1.27	1.17	1.28	1.16	1.74	1.5	1.3	1.32	1.07
Death Rate for Respiratory Tuberculosis	0.78	0.5	0.73	0.74	0.85	1.05	0.75	1.02	0.85	1.30	1.15	0.95	0.98	1.0

BACTERIOLOGICAL INVESTIGATIONS.

	PUBLIC HEALTH DEPT.						SCHOOL MEDICAL DEPT.					
	1922	1923	1924	1925	1926	1927	1922	1923	1924	1925	1926	1927
Examinations carried out by Bristol University	7	3	....	5	4	9	....	....	2	1	2	....
Examinations carried out at Gorse Hill												
Hospital :—												
Throat swabs examined	178	161	613	780	646	93	4	1	....	....	....	....
Urine: Examination for Tubercle bacilli	....	....	....	....	....	....	1	....	....	....	....	....
Examinations carried out at 61 Eastcott Hill:												
Throat; swabs examined direct	7	....	....	5	83	157	3	1	2	6	1	3
Eyes; swabs examined direct	62	71	48	33	45	41	17	9	11	1	5	....
Pus and discharges :—												
For Tubercle bacilli	3	8	3	20	9	9	13	9	5	8	2	....
For other organisms (cultures)	48	43	25	47	34	37	20	18	18	11	4	1
Hair. Examinations for Ringworm fungus	11	13	18	12	11	9	637	430	507	439	253	229
Other conditions	....	....	1	3	1	....	6	....	5	4	1	....
Blood, Histological examinations	2	9	50	48	27	18	5	36	66	149	83	53
Blood for Wasserman Reaction	....	....	....	2	....	....	....	....	....	....	1	2
Cerebro-spinal fluid	....	....	1	....	....	1	....	....	....	....	....	....
Sputum. For Tubercle bacilli	3	1	1	....	....	2	7	....	2	....	1	....
For other organisms	3	1	1	....	....	....	2	....	2	....	....	....
Urine-Chemical examinations	78	27	19	15	....	13	13	8	23	16	12	6
" Microscopical examinations	....	....	....	9	....	8	....	....	....	2	....	4
" Bacteriological examinations	....	3	5	....	....	....	....	....	3	....	4	....
For diseased meat	....	13	10	16	33	17	....	....	....	....	....	....
Miscellaneous	6	13	....	....	26	34	13	2	2	....	1	....
TOTALS	408	366	795	995	919	448	741	514	648	637	370	298
No. of samples of water submitted for chemical and bacteriological analysis	....	....	....	....	....	....	....	....	....	....	....	....
No. of samples of sewage effluent submitted for chemical examination	....	....	....	....	....	....	....	....	....	....	....	....

**REVIEW OF THE COMPARATIVE VITAL AND MORTALITY
STATISTICS FOR THE BOROUGH OF SWINDON, TOGETHER
WITH THOSE FOR ENGLAND AND WALES FOR THE YEARS
1901 TO 1927 INCLUSIVE.**

Year	BIRTH RATE		DEATH RATE		INFANT MORTALITY RATE.		Illegitimate Death Rate.
	Swindon	England and Wales	Swindon	England and Wales	Swindon	England and Wales	
1901	30·6	28·5	11·8	16·9	102·9	151	—
1902	28·3	28·5	12·7	16·3	104·7	133	—
1903	29·5	28·5	11·27	15·5	106·9	132	—
1904	30·0	28·0	12·49	16·3	111·2	145	—
1905	28·4	27·3	11·2	15·3	95·4	128	—
1906	29·4	27·2	9·9	15·5	86·2	132	—
1907	28·8	26·5	12·3	15·1	91·8	118	—
1908	28·9	26·7	11·8	14·8	101·5	120	—
1909	26·5	25·8	10·8	14·6	78·2	109	—
1910	23·4	25·1	9·7	13·5	86·8	105	—
1911	21·6	24·3	10·9	14·6	103·1	130	—
1912	23·4	23·9	10·3	13·3	76·3	95	—
1913	23·39	24·1	12·08	13·8	86·4	108	—
1914	22·5	23·8	11·5	14·0	73·7	105	—
1915	21·16	21·9	12·83	15·7	67·7	110	—
1916	18·9	20·9	11·3	14·4	72·4	91	—
1917	15·5	17·8	12·25	14·4	88·6	96	—
1918	16·53	17·7	15·13	17·6	81·3	97	129·63
1919	16·86	18·5	11·97	13·8	83·9	89	79·52
1920	23·25	25·4	11·64	12·4	69·0	80	122·44
1921	20·27	22·4	9·58	12·1	67·5	83	102·56
1922	18·98	20·6	12·17	12·9	60·5	77	121·95
1923	17·77	19·7	9·27	11·6	53·2	69	83·33
1924	17·11	18·8	10·78	12·2	63·01	75	192·30
1925	16·56	18·3	11·09	12·2	60·5	75	52·63
1926	17·09	17·8	10·67	11·6	47·95	70	193·54
1927	14·52	16·7	11·16	12·3	46·98	69	107·14

BOROUGH OF SWINDON.**CAUSES OF DEATH, 1927.**

(Registrar General's Official Returns).

CAUSES.	MALES	FEMALES	TOTAL
Enteric Fever	—	1	1
Whooping Cough	2	—	2
Diphtheria	1	2	3
Influenza	27	24	51
Tuberculosis of Respiratory System	28	17	45
Other Tuberculous Diseases	8	2	10
Cancer, malignant disease	32	40	72
Rheumatic Fever	1	—	1
Diabetes	1	1	2
Cerebral Haemorrhage &c.	9	16	25
Heart Disease	56	76	132
Arterio-sclerosis	12	14	26
Bronchitis	19	29	48
Pneumonia (all forms)	13	13	26
Other respiratory diseases	5	4	9
Ulcer of Stomach or duodenum	3	3	6
Diarrhoea &c. (under 2 years)	1	1	2
Appendicitis and typhlitis	2	3	5
Cirrhosis of Liver	2	1	3
Acute and Chronic nephritis	8	9	17
Puerperal Sepsis	—	—	—
Other accidents and diseases of pregnancy and parturition	—	1	1
Congenital Debility and Malformation, premature birth	14	8	22
Suicide	2	2	4
Other Deaths from Violence	10	—	10
Other defined diseases	59	56	115
	315	323	638

BOROUGH OF SWINDON.

INFANT MORTALITY.

1927. *Nett Deaths from stated causes at various ages under One Year of Age.*

Compiled from the Official Registrations.

CAUSES OF DEATH.				Under 1 week	1-2 weeks	2-3 weeks	3-4 weeks	Total under 4 weeks	4 weeks and under 3 months	3 months and under 6 months	6 months and under 9 months	9 months and under 12 m'ths	Total deaths under 1 year,
All Causes :—													
Certified	....	....	....	17	1	....	3	21	5	2	8	3	39
Uncertified	....	....	....	....	....	....	....	....	....	....	....	....	....
{ Small-pox	....	....	....	....	....	....	....	....	....	....	....	....	....
{ Chicken-pox	....	....	....	....	....	....	....	....	....	....	....	....	....
{ Measles	....	....	....	....	....	....	....	....	....	....	....	....	....
{ Scarlet Fever	....	....	....	....	....	....	....	....	....	....	....	....	....
{ Diphtheria and Croup	....	....	....	....	....	....	....	....	....	....	1	1	2
{ Whooping-Cough	....	....	....	....	....	....	....	....	....	....	2	....	2
{ Diarrhoea	....	....	....	....	....	....	....	....	....	....	1	....	1
{ Enteritis	....	....	....	....	....	....	....	....	....	....	....	....	....
{ Tuberculous Meningitis	....	....	....	....	....	....	....	....	....	....	....	....	....
{ Abdominal Tuberculosis	....	....	....	....	....	....	....	....	....	....	....	....	....
{ Other Tuberculous Diseases	....	....	....	....	....	....	....	....	....	....	....	....	....
{ Congenital Malformations	....	....	....	3	1	....	....	4	....	1	1	....	6
{ Premature Birth	....	....	....	7	....	....	1	8	....	....	....	....	8
{ Atrophy, Debility & Marasmus	....	....	....	2	....	....	1	3	1	....	....	1	5
Atelectasis	....	....	....	....	....	....	....	....	....	....	....	....	....
Injury at Birth	....	....	....	2	....	....	....	2	....	....	....	....	2
Erysipelas	....	....	....	....	....	....	....	....	....	....	....	....	....
Syphilis	....	....	....	....	....	....	....	....	....	....	....	....	....
Rickets	....	....	....	....	....	....	....	....	....	....	....	....	....
Meningitis (not Tuberculous)	....	....	....	....	....	....	....	....	....	....	....	....	....
Convulsions	....	....	....	....	....	....	....	....	....	....	1	....	1
Gastritis	....	....	....	....	....	....	....	....	....	....	....	....	....
Laryngitis	....	....	....	....	....	....	....	....	....	....	....	....	....
Bronchitis	....	....	....	....	....	....	....	....	3	1	....	....	4
Pneumonia (all forms)	....	....	....	....	....	....	....	....	....	....	1	1	2
Suffocation, overlying	....	....	....	....	....	....	....	....	....	....	....	....	....
Other causes	....	....	....	3	....	....	1	4	1	....	1	....	6
TOTALS	....	....	....	17	1	....	3	21	5	2	8	3	39

LIST OF HOSPITALS PROVIDED OR SUBSIDISED BY THE
LOCAL AUTHORITY OR BY THE COUNTY COUNCIL.

TUBERCULOSIS.	Two beds at Winsley Sanatorium, near Bath, provided by the local authority.
MATERNITY.	A Maternity Hospital of 13 beds provided by the local authority.
CHILDREN.	Nil.
FEVER.	A fever hospital provided by the Swindon and District Hospital Board. (About 90 beds.)
SMALL POX.	A Smallpox Hospital provided by the Wilts County Council.
VENEREAL DISEASES.	A hospital with 6 beds provided by the Wilts County Council.

LIST OF CLINICAL TREATMENT CENTRES IN THE BOROUGH OF SWINDON.

Name of Clinic.	Where held	Days and hours of attendance	By Whom Provided.
Maternity and Child Welfare	61, Eastcott Hill	Mondays, Wednesdays & Fridays, 2.30 p.m. to 4.30 p.m.	Swindon Corporation
Maternity and Child Welfare	Girls' Club, St. Paul's Street	Tuesdays, 2.30 p.m.—4 p.m.	"
Maternity and Child Welfare	Primitive Methodist School, Romsey St.	Thursdays, 2.30 p.m.—4 p.m.	"
Ante-Natal Clinic	Maternity Home, Milton Road	{ Tuesdays, Wednesdays and Fridays, 2.30 p.m.—4.30 p.m.	"
Minor Ailments	61, Eastcott Hill	Every morning 9 a.m.—11 a.m.	"
Dental Clinic	Faringdon Street	Daily 9.30—12.30 a.m. & 2—5 p.m. (Saturdays 10—12.30 p.m.)	"
Eye Clinic	Faringdon Street	Tuesdays 2—4 p.m. and Alternate Tuesdays, 9—11 a.m.	"
Ringworm Clinic	61, Eastcott Hill	Tuesdays, 2—5 p.m.	"
Throat, Nose & Ear Clinic	"	Mondays, 2—5 p.m.	"
Enlarged Thyroid Glands	"	Thursdays, 2—5 p.m.	"
X-Ray Clinic	"	Thursdays, 2—5 p.m.	"
Electrical Treatment (General)	"	Mondays, 2—4 p.m.	"
Electrical Ionization Clinic	"	Fridays, 2—4.30 p.m.	"
Observation Clinic	"	Saturdays, 9.30 a.m.—12 noon	"
Tuberculosis Clinic	Tuberculosis Dispensary, Milton Road	Thursdays, 11 a.m.—1 p.m.	Wilts County Council.
Venereal Diseases Clinic	Isolation Hospital, Gorse Hill	Men. Wednesdays, 7—8.30 p.m. Saturdays, 1.30—3 p.m. Women and Children— Mondays, 5—6.30 p.m. Fridays, 2—3.30 p.m.	Wilts County Council
Orthopaedic Clinic	Isolation Hospital Grounds, Gorse Hill	Tuesdays, 11 a.m.—5 p.m.	Voluntary Association

AMBULANCE FACILITIES.

-
- | | |
|--|---|
| (a) For Infectious Diseases
(including Small-pox) | Two Motor Ambulances are supplied
by the Swindon and District Hospital
Board. |
| (b) For non-infectious and
accident cases. | A Motor Ambulance is provided
by the Swindon Town Council. |
-

LIST OF LOCAL ACTS, SPECIAL LOCAL ORDERS AND GENERAL ADOPTIVE ACTS IN FORCE IN THE DISTRICT.

LOCAL ACTS AND ORDERS.

The Swindon Corporation Act, 1904.
 Swindon Water Act, 1894.
 Swindon (Water) Orders of 1902 and 1919.
 Swindon Corporation Tramway Order, 1901.
 Swindon New Town Electric Lighting Order, 1895.
 Swindon Corporation (Wilts and Berks Canal Abandon-
 ment) Act, 1914.
 The Swindon Order, 1923.
 The Swindon Order, 1925.
 Swindon Corporation Act, 1926.

ADOPTIVE ACTS IN FORCE.

DATE OF ADOPTION.

Infectious Diseases (Prevention) Act 1890 	11th March, 1902
Notification of Births Act, 1907	27th Oct., 1914
The Museums & Gymnasiums Act, 1891	6th June, 1905
The Public Health Acts Amendment Act, 1890 	11th Nov., 1890

THE PUBLIC HEALTH ACTS AMENDMENT ACT, 1907 :—

Section 85 (Registries for Servants)	22nd Dec., 1926
Part III. Secs. 36, 37, 49, 50 and 51.	} 3rd Jan., 1927
Part IV. Secs. 62, 64 and 65.	
Part X. Sec. 93.	

THE PUBLIC HEALTH ACT, 1925 :—

Part II. (except secs. 20, 24 and 29).	} 1st Feby., 1927
Part III.	
Part IV.	
Part V.	

APPENDIX.

BOROUGH OF SWINDON.

ANNUAL REPORT

OF THE

Chief Sanitary Inspector,

F. H. BEAVIS,

For the Year 1927.

To the Chairman and Members of the Health etc., Committee.

LADIES AND GENTLEMEN,

I have the honour of submitting my second Annual Report dealing with the work carried out by the Sanitary Department during the year ended 31st December, 1927.

Appended hereto will be found the tables giving full particulars of the inspections made during the year in conformity with the requirements of the Ministry of Health.

The year under review was an exceptionally busy one in the Sanitary Department, as, owing to the disorganisation of the staff during 1926, there was an accumulation of arrears which had to be overtaken. In March your Committee appointed Mr. J. Bowers as an additional Assistant Sanitary Inspector, and he commenced his duties early in April. This additional Inspector relieved the situation to a great extent, but the fact must not be lost sight of, that the Borough is growing by leaps and bounds and new houses are being erected in every direction, whilst new streets are continually being opened. Although this is a very satisfactory sign of progress, it also greatly adds to the works of the Department.

FOOD SUPPLY.

In reviewing the work under the Meat Regulations, it will be seen that there was a total of over 14,000 animals slaughtered in the Borough during the year. Every one of these animals was seen by your Inspectors, whilst there is also a considerable amount of dead meat coming into the Borough from outside districts. A continual watch is kept upon this traffic, in order to ensure that the public are receiving a wholesome supply of fresh meat. This work is of the greatest importance, for it is essential that the meat consumed by the people should be above suspicion.

The need of a Public Abattoir is again emphasised, for the provision of such would greatly simplify the work of meat inspection, because all slaughtering would then become centralised and could easily be kept under constant supervision. This is a question which is now being considered by your Committee and no doubt something will be done in the near future.

The unsound food destroyed during the year amounts to just over 56 tons. This exceptionally high figure is accounted for by the number of animals which are now coming into Swindon for emergency slaughter, a large percentage of which are found to be unfit for food.

There is a considerable number of small shops in the Borough where cooked food is sold. These are kept under constant supervision by your Officer, but it would greatly facilitate proper control of these premises if all cooked food purveyors were required to be registered or licensed.

HOUSING.

The housing conditions continue to improve, but there are still very few houses to let and consequently, the new houses erected, being for sale, there is very little available accommodation for the poorer classes of the community, who, perhaps through no fault of their own, are unable to purchase a house in which to live.

The provision of a sanitary dustbin to every house in the Borough is gradually being enforced and when this is accomplished the danger from flies, etc., will be greatly obviated, whilst the sanitary condition of our streets will be very much improved.

MILK AND DAIRIES.

The milk supply of Swindon is obtained from the agricultural districts immediately surrounding the Borough. Milk production on a large scale is carried on in these districts and is one of the farmers' principle sources of income. A bacteriological examination of milk is carried out at the Public Health Department and twenty eight samples of milk were examined during the year. These samples are taken from the pails or churns in the streets while the milk is in the course of delivery to the consumer. This work results in a great improvement in the purity of the milk supply, every dairyman being anxious to secure a low bacterial count.

There is at present one licensed bottling establishment for Grade A (Tuberculin Tested) milk within the Borough and one supplementary licence to sell this grade of milk has been granted to a dairyman outside. Grade A milk is also retailed within the Borough from a farm at Hodson.

TENTS, VANS AND SHEDS.

During the year under review we have experienced very little trouble from this class of the community. There are at present a few caravans in the district, but in every case the bye-laws are being strictly enforced.

THEATRES, CINEMAS, Etc.

In Swindon we have : one theatre, five cinemas, one billiard saloon and three dancing halls. These premises are frequently inspected by your Officer, and every effort is made to ensure that these premises are kept in a satisfactory condition.

RATS AND MICE (DESTRUCTION) ACT, 1919.

Much useful work has been carried out during the year under the above Act. As will be seen from the table, the number of rats actually accounted for is very considerable, but a much larger number of these pests are destroyed, as owing to the use of poisons and the smoking of large burrows, many rats are destroyed which are not actually seen, and are, therefore, not taken into account in compiling the table.

I am, Ladies and Gentlemen,

Your obedient Servant,

F. H. BEAVIS,

Chief Sanitary Inspector.

SANITARY STATISTICS.
TABLE OF NUISANCES RECORDED AND ABATED 1927.

Nature of Complaints registered.		Defects brought forward from 1926	Complaints received and visited	Total	No. of complaints abated during 1927	No. of cases not abated at end of year.
Defective drains	...	11	19	30	21	9
" traps	...	5	26	31	30	1
" spouts and eaves troughing	...	10	96	106	87	19
" roofs	...	25	124	149	118	31
" and dirty W.C. pans	...	—	75	75	67	8
" floors	...	18	74	92	80	12
" and insufficient yard paving	...	18	52	70	62	8
" walls	...	12	117	129	110	19
" flushing cisterns	...	16	45	61	56	5
" ceilings	...	6	77	83	65	18
" forecourts	...	4	5	9	9	—
" sinks	...	1	14	15	7	8
Offensive animals	...	...	5	5	5	...
Offensive accumulations	...	1	57	58	57	1
Choked drains	...	2	76	78	76	2
Damp walls	...	14	31	45	42	3
Dirty rooms	...	39	394	433	371	62
Overcrowding	...	5	14	19	15	4
Absence of covered receptacle at butchers' premises.	...	...	8	8	6	2
Miscellaneous	...	84	536	620	541	79
TOTALS	...	271	1845	2116	1825	291

VISITS AND INSPECTIONS, 1927.

Infectious Disease	....	....	....	250
Work in course of construction	....	....	....	356
Slaughterhouses	....	....	....	4543
Bakehouses	....	....	....	76
Dairies, Cowsheds and Milkshops	....	....	....	210
Markets	....	....	....	335
Outworkers	....	....	....	58
Common Lodging Houses	....	....	....	30
Fried Fish Shops	....	....	....	440
Re-visits	....	....	....	2048
Miscellaneous	....	....	....	2122
Workshops	....	....	....	531
Ice Cream Shops	....	....	....	60
Butchers' Shops	....	....	....	415
Contacts with Small Pox	....	....	....	1
Pig-killing on private premises	....	....	....	33
House to House Inspections	....	....	....	328
				<hr/>
				11836
				<hr/>

DEFECTS IN OUTWORKERS' PREMISES.

Dirty Ceilings	....	....	....	12
Dirty Walls	....	....	....	8
Defective Roofs	....	....	....	4
„ Water-closets	....	....	....	3
„ Floors	....	....	....	2
„ Yard Paving	....	....	....	—
„ Firegrates	....	....	....	2
„ Walls	....	....	....	—
„ Drains	....	....	....	3
Other Defects	....	....	....	11
				<hr/>
				45
				<hr/>

INSPECTION OF FACTORIES, WORKSHOPS AND WORK-PLACES.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR
INSPECTORS OF NUISANCES.

Premises (1)	Number of		
	Inspections (2)	Written Notices (3)	Occupiers Prosecuted (4)
Factories (Including Factory Laundries)	70	3	Nil
Workshops (Including Workshop Laundries)	415	14	Nil
Workplaces (Other than Outworkers' premises)	52	1	Nil
TOTAL	537	18	Nil

DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.—Continued.

Particulars. (1)	Number of Defects.			Number of Offences in Respect to which Prose- cutions were Instituted. (5)
	Found (2)	Remedied (3)	Referred to H.M. Inspector. (4)	
<i>Nuisances under the Public Health Acts :—*</i>				
Want of cleanliness	58	57	...	...
Want of ventilation	2	2	...	...
Overcrowding	2	2	...	...
Want of drainage of floors	1	1	...	...
Other nuisances	40	36	...	...
Sanitary accommodation { insufficient	3	2	...	...
{ unsuitable or defective	44	42	...	...
{ not separate for sexes	1	1	...	...
<i>Offences under the Factory and Workshop Acts :—</i>				
Illegal occupation of underground bake- house (s.101) ....	....	...	...	...
Other offences (Excluding offences relating to outwork and offences under the Sections men- tioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921). ....	....	...	...	...
TOTAL	151	143	...	...

* Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901,
as remediable under the Public Health Acts.

DISINFECTANTS.

Number of Applications	..	..	..	1958
Number of Applications Granted		..	..	1958
Quantity given	Fluid	..	..	236 $\frac{1}{4}$ galls
	Powder	..	3cwts. 0qrs.	16lbs.

DISINFECTION.

Cases of	Infectious Disease	..	..	..	270
„	Cancer	..	..	..	12
„	Consumption	..	..	..	122
Verminous Rooms	..	..	..	..	98
Number of Lots of Bedding destroyed		..	..	..	19
Number of Lots of Bedding disinfected		..	..	..	531
School Shawls disinfected	..	..	..	..	16
Library Books disinfected	..	..	..	..	40
Animals destroyed	..	..	..	..	12
Miscellaneous Articles disinfected		..	..	..	45
No. of School Rooms disinfected		..	..	..	Nil

DAIRIES, COWSHEDS AND MILKSHOPS.

Dairies and Milkshops	....	....	....	45
Cowsheds	....	....	....	12
Milk Purveyors from outside the Borough	....			22
				—
				79
				—

There is one licensed establishment for bottling and retailing Grade A (Tuberculin Tested) Milk within the Borough.

One subsidiary licence was granted for the retailing of Grade A (Tuberculin Tested) Milk.

Inspections	....	....	....	....	210
NUISANCES FOUND—					
Dairies requiring limewashing	....	....	....	....	18
Cowsheds requiring limewashing		....	....	....	6
Dirty yards	....	....	....	....	1
Defective paving	....	....	....	....	2
Offensive accumulations	....	....	....	....	1
Defective ceiling plaster	....	....	....	....	1
Unsuitable and dirty utensils		....	....	....	—
Milk and containers uncovered		....	....	....	8
Defective floors	....	....	....	....	—
Defective vent shafts		....	....	....	1
Dirty conditions	....	....	....	....	6
Insufficient water supply	....	....	....	....	—
Choked drains	....	....	....	....	2
Defective watercloset	....	....	....	....	1
					—
					47
					—

SLAUGHTERHOUSES.

Registered	....	....	....	....	9
Licensed	....	....	....	....	10
					—
TOTAL	....	....	....	....	19
					—
Number of Inspections	....	....	....	....	4543
NUISANCES FOUND—					
Requiring limewashing	....	....	....	....	18
Want of cleanliness	....	....	....	....	2
Insanitary condition of pens and yards	....	....	....	....	5
Offensive accumulations	....	....	....	....	7
Choked drains	....	....	....	....	6
Other defects	....	....	....	....	4
					—
TOTAL	....	....	....	....	42
					—

COMMON LODGING HOUSES.

On Register	....	....	....	....	1
Number of persons for whom accommodation is provided :—					
	Adults 111.		Children 8.		
Inspections	....	30.			

RATS AND MICE (DESTRUCTION) ACT, 1919.

The following is a table showing the work carried out by your officer under the above Act during the year under review :—

Rats caught	Complaints Received.	Due to Defects of Drains or Sewers.	Due to Structural Defects.
5,305	193	23	18

BAKEHOUSES.

Factory Bakehouses	....	....	....	10
Workshop Bakehouses	....	....	....	22
Domestic Bakehouses	....	....	....	1
				—
TOTAL	....	....	....	33
				—
Number of Inspections	....	....	....	76

NUISANCES FOUND—

Limewashing overdue	....	....	....	22
Dirty yards	....	....	....	—
Ceilings requiring re-painting	....	....	....	—
Choked drains	....	....	....	—
Dirty W.C. pans	....	....	....	3
No separate accommodation for sexes	....	....	....	—
Accumulations of manure	....	....	....	1
Defective yard paving	....	....	....	—
„ vent shafts	....	....	....	1
Want of cleanliness	....	....	....	6
Other defects	....	....	....	8
				—
TOTAL	....	....	....	41
				—

FOOD SUPPLY.

There are on the registers of the Department—

Butchers Shops	....	....	....	79
Butchers Stalls (in covered market)	....	....	....	3
Wholesale Meat Store	....	....	....	1
Fried Fish Shops	....	....	....	34
Ice Cream Shops	....	....	....	140
Cooked Meat Shops	....	....	....	33

and these premises are regularly inspected by your officers.

MEAT AND FOOD DESTROYED.

			Tons	cwts.	qrs.	lbs.
Carcases of Beef and Offal	....	....	32	11	0	24
Portions of Beef	....	....	8	0	2	8
Carcases of Veal	....	....		2	2	16
Portions of Veal	....	....			1	7
Carcases of Mutton and Offal	....	....		3	0	9
Portions of Mutton	....	....		2	0	5
Carcases of Pig and Offal	....	....	1	0	1	19
Portions of Pig	....	....		13	0	6
Plucks	....	....		3	2	15
Heads	....	....	1	5	3	19
Hearts	....	....				18
Lungs	....	....		9	0	16
Livers	....	....		14	0	27
Kidneys	....	....				8
Offal	....	....	3	3	0	13
Potatoes	....	....	8	4	2	18
Fish	....	....		2	1	27½
Corned Beef	....	....			1	6
Preserved Eggs	....	....				22
24¼ doz. Eggs						
1 Rabbit						
			56	17	1	3½

PUBLIC HEALTH (MEAT) REGULATIONS 1924.

The following is a table showing the number of carcasses inspected during the year, together with the average per week.

	Beasts	Calves	Pigs	Mutton	Total
Total Inspected	1457	2219	4654	5712	14042
Average per week	28.02	42.67	89.5	109.84	270.03

CLASSIFICATION OF DISEASES FOUND IN THE
UN SOUND FOOD.

				Tons	cwts.	qrs.	lbs.
Abscesses	....	....	....		15	0	8
Accident	....	....	....	2	11	2	2
Actinomycosis	....	....	....		1	1	6
Amyloidosis	....	....	....			1	3
Angioma ....	....	....	....			1	5
Bone Taint	....	....	....		4	1	10
Cirrhosis ....	....	....	....		2	0	10 $\frac{1}{2}$
Cystercercus Tenuicollis	....	....	....		1	1	16
Decomposition	....	....	....	1	0	2	8
Distomum Hepaticum	....	....	....		6	1	24
Dropsy ....	....	....	....	6	12	3	7
Echinococcus Veterinorum	....	....	....			1	15
Emaciation	....	....	....		10	1	8
Fatty Degeneration	....	....	....				15
Hypernephrosis	....	....	....				2
Immature ....	....	....	....			1	8
Inflammation	....	....	....	3	19	0	8
Icterus	....	....	....		8	0	4
Johnes Disease	....	....	....	4	10	1	9
Mastitis ....	....	....	....		3	3	0
Melanosis	....	....	....			1	2
Moribund	....	....	....		11	0	18
Necrosis ....	....	....	....			3	22
Nephrosis	....	....	....			1	10
Pericarditis	....	....	....		11	3	20
Pericarditis Septic	....	....	....		6	3	16
Peritonitis	....	....	....				18
Pleuritis	....	....	....			1	18
Pneumonia	....	....	....		2	2	4
Pyæmia ....	....	....	....			1	1
Sarcoma ....	....	....	....		5	0	12
Septicæmia	....	....	....		5	3	0
Strongylus Rufescens	....	....	....		1	0	20
Strongylus Paradoxus	....	....	....				4
Suspected Swine Fever	....	....	....		4	2	18
Swine Erysipelas	....	....	....		2	0	22
Tuberculosis	....	....	....	22	15	0	18
Unsoundness	....	....	....	9	19	1	10 $\frac{1}{2}$
Urticaria	....	....	....			1	21
				56	17	1	3 $\frac{1}{2}$

**TABLE SHOWING THE RESULTS OF BACTERIOLOGICAL
EXAMINATION OF MILK SAMPLES.**

Sample		Organisms per $\frac{1}{1000}$ c.c.	T.B.	Coli per $\frac{1}{10}$ c.c.	Sediment.
No.					
1		2850	—	+	+ —
2	„	30	—	+	+
3	„	100	—	+	+
4	„	1200	—	—	+ —
5	„	4650	—	—	+
6	„	20	—	—	+ —
7	„	20	—	—	+ —
8	„	1360	—	—	+ —
9	„	2000	—	—	++
10	„	320	—	—	+
11	„	80	—	+	++
12	„	2040	—	+	+
13	„	900	—	—	+ —
14	„	20	—	—	+
15	„	60	—	+	+ —
16	„	1200	—	—	+ —
17	„	9750	+4	—	+ —
18	„	825	—	—	+ —
19	„	10	—	—	+ —
20	„	460	—	—	++
21	„	900	—	—	++
22	„	7050	—	+	++
23	„	1650	—	+	+
24	„	900	—	—	+ —
25	„	10	—	—	+ —
26	„	750	—	—	+ —
27	„	11000	—	+	++
28	„	1910	—	—	+

HOUSING.

Number of new houses erected during the year :—

(a)	Total (including numbers given separately under (b)	289
(b)	With State assistance under the Housing Acts :—	
(i)	By the Local Authority	4
(ii)	By other bodies or persons	255

I. INSPECTION OF DWELLING-HOUSES DURING THE YEAR :—

(1)	Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	862
(2)	Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925	319
(3)	Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	12
(4)	Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	712

II. REMEDY OF DEFECTS DURING THE YEAR WITHOUT SERVICE OF FORMAL NOTICES.

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers	572
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III. ACTION UNDER STATUTORY POWERS DURING THE YEAR.

A. Proceedings under Section 3 of the Housing Act, 1925 ;

(1)	Number of dwelling-houses in respect of which notices were served requiring repairs	2
(2)	Number of dwelling-houses which were rendered fit after service of formal notices—	
(a)	By Owners	2
(b)	By Local Authority in default of owners	Nil.
(3)	Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close	10

B. Proceedings under Public Health Acts :—

(1)	Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	....	....	....	7
(2)	Number of dwelling-houses in which defects were remedied after service of formal notices—				
(a)	By Owners	....	....	....	7
(b)	By Local Authority in default of owners				Nil

C. Proceedings under Sections 11, 14 and 15 of the Housing Act, 1925 :—

(1)	Number of representations made with a view to the making of Closing Orders	....	11
(2)	Number of dwelling-houses in respect of which Closing Orders were made	....	1
(3)	Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit	....	Nil
(4)	Number of dwelling-houses in respect of which Demolition Orders were made	....	1
(5)	Number of dwelling-houses demolished in pursuance of Demolition Orders	....	11

NOTE.—Eighty-four new houses were erected by this Authority under the Housing Acts on their Hurst Park Housing Estate, which is outside the Borough, and also sixteen houses at Cricklade Road, which is outside the Borough.